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The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

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Moore

TUBULAR STEEL DERRICKS

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Day ten minutes

Handles as handily as a fishtail

And how it does make the fishtail look sorry when the day's hole production is chalked up on the log!

That's all the time it takes

to change from worn cutters to a new set, when long drilling wears the cutters dull. Ten minutes! From the moment the Reed Bit comes out onto the derrick floor until it goes back again into the hole with the new cutters all set,—ten minutes!

You needn't lift the Bit off the floor at any time. All the tools you need are a hammer, a drift-pin and the little set-screw wrench that comes with the Bit. And any workman can make a job of this job.

Reed **ROCK BIT**

Quick-change of cutters is simply one of the twenty practical features which save time, save money, save bother, with Reed Bits on the drilling job. You might well write in and tell us to count up the whole 20 for you in plain print. Doing that little thing has made a difference to many a drilling outfit.

REED ROLLER BIT COMPANY
HOUSTON - - LOS ANGELES

REED ROTARY DRILLING TOOLS

Stuffing Cartridge Container with Eagle Lead Wool—as easily as you would handle ordinary rope

The Cartridge Container stuffed with Eagle Lead Wool, ready to be lowered at the end of tools to the battle ground of water

Eagle Rope Socket Metal

for socketing wire rope is 35% lighter than ordinary No. 4 babbitt. Will not crumble or break in the rope socket. An Eagle-Picher product, together with Lead Wool and Eagle Bearing Metals. Write for free Lead Wool booklet.

Stop the waste of bottom water—

plug it off with Eagle Lead Wool

OIL men, alert to the need for conservation of natural petroleum deposits, are taking a rapidly growing interest in eliminating production wastes.

Bottom water, one waste that costs producers many thousands of barrels, can be shut off quickly and economically by the use of Eagle Lead Wool. The process is simple and thorough:

FIRST, stuff the special Cartridge Container with Eagle Lead Wool, which is as easy and quick to handle as ordinary rope. Use only as much lead wool as is needed. There is no waste.

SECOND, drop the container into the well. Under pressure, the spongy lead wool is pounded out through the meshes of the container, filling every crack and water crevice, stopping the flow at once. Lead Wool makes a permanent plug—it cannot corrode.

Your supply company stocks Eagle Lead Wool and Cartridge Containers—in sizes for all casings. Or write direct to Eagle-Picher at Joplin. Free descriptive booklets on request.

The EAGLE-PICHER LEAD COMPANY

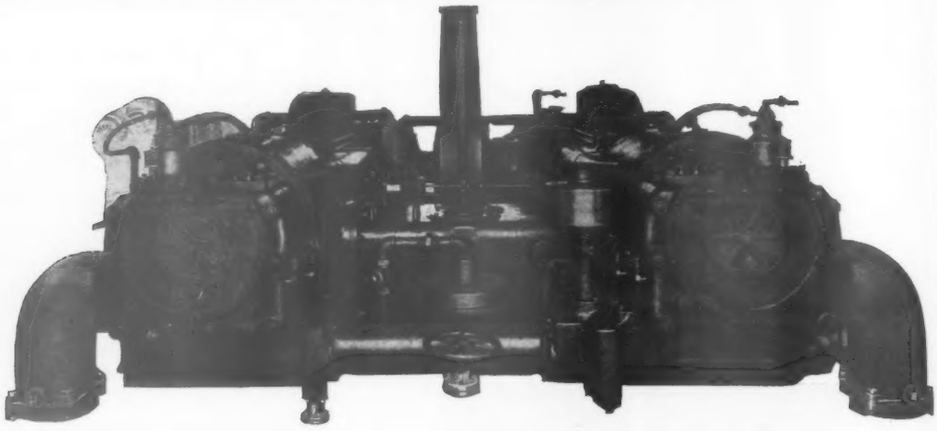
Chicago · Joplin · Cincinnati

EAGLE LEAD WOOL

and Cartridge Containers

Producers of lead, zinc and allied products · Eleven Plants · Branches in all principal cities

They Run By Themselves



One Pumper Can Service Many Watts-Miller Units
Operating on 24 Hour Schedule

Watts-Miller Gas Engine Driven Air Compressor equipment embodies the most up-to-date features known to the art of compressing air or gas.

This equipment has special features which enable it to function day and night, year in and year out, with practically no attention or servicing. In fact, one pumper, making service calls at twelve hour intervals, can handle a surprising number of units.

We shall be glad to explain the special features that enable Watts-Miller Units to "run by themselves," as one concern so aptly put it.

Consult our engineers at Tulsa, Los Angeles, or write us direct at Springfield, Ohio.

The Miller Improved Gas Engine Co.

Tulsa, Okla., Office 323 No. Cheyenne Ave. — **Springfield, Ohio** — *Los Angeles Office* 807 San Fernando Bldg.

Capacity Guaranteed Positively Delivered

Watts-Miller engineers never over-rate Watts-Miller equipment. Consequently, acceptance tests never develop capacity shortages. The fact that this make of equipment has always, without exception proved its ability to deliver 100% of the contract figures on capacity (with a fair margin to spare) constitutes a record of which we are justly proud.

Furthermore, such a record must be taken into account by those in the market for gas engine and compressor equipment.

WATTS GAS ENGINES AND COMPRESSORS MILLER

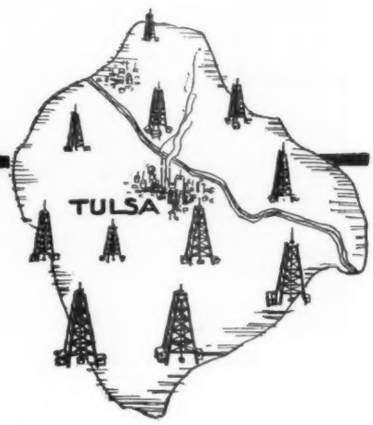
Certainty

WHEN specialized problems arise, as they frequently do in the petroleum industry instead of experimenting—or trying out something you have "heard" was "O. K.," why not turn your problems over to du Pont.

Paint protection—especially in the petroleum field is essentially a chemical problem. In the laboratories of the du Pont Company a chemical analysis of the elements involved is made. From this information a finishing material is developed which will answer the conditions discovered.

This involves no guess work—the finishing material recommended by du Pont will give results which are certain.

The du Pont Company offers a complete line of paints, varnishes and enamels manufactured under production methods which guarantee regulation of all materials used.



To this end, the du Pont Company offers to executives in the petroleum industry the services of the Petroleum Finishing Service, backed by the enormous chemical research facilities of the du Pont Company. These services are, of course, free. Inquiries are invited. E. I. du Pont de Nemours & Co., Inc., Chemical Products Division, Parlin, N. J., Tulsa, Okla., or Chicago, Ill.

DU PONT

A du Pont finish for every surface

Steel Plate Construction

Economically and Rapidly Fabricated

Thomas Multiple Punch Press

Towering presses, giant rolls, huge equipment—all the enormous machinery of a modern plant completely equipped to give quantity production of heavy steel plate construction are so placed in the P. I. W. shops as to give high efficiency and low manufacturing costs.

P.I.W. STEEL PLATE CONSTRUCTION

The advantages of this equipment to buyers of steel plate construction are not only the certainty of well made products, but also the assurance of prompt fabrication and rapid delivery.

With the special need of the oil industry for rapid construction, the ability of the P. I. W. shops to meet this demand without sacrificing quality is of prime importance.

Branch Plant: Beaumont, Texas

Bull Riveter

1500 Ton Hydraulic Press

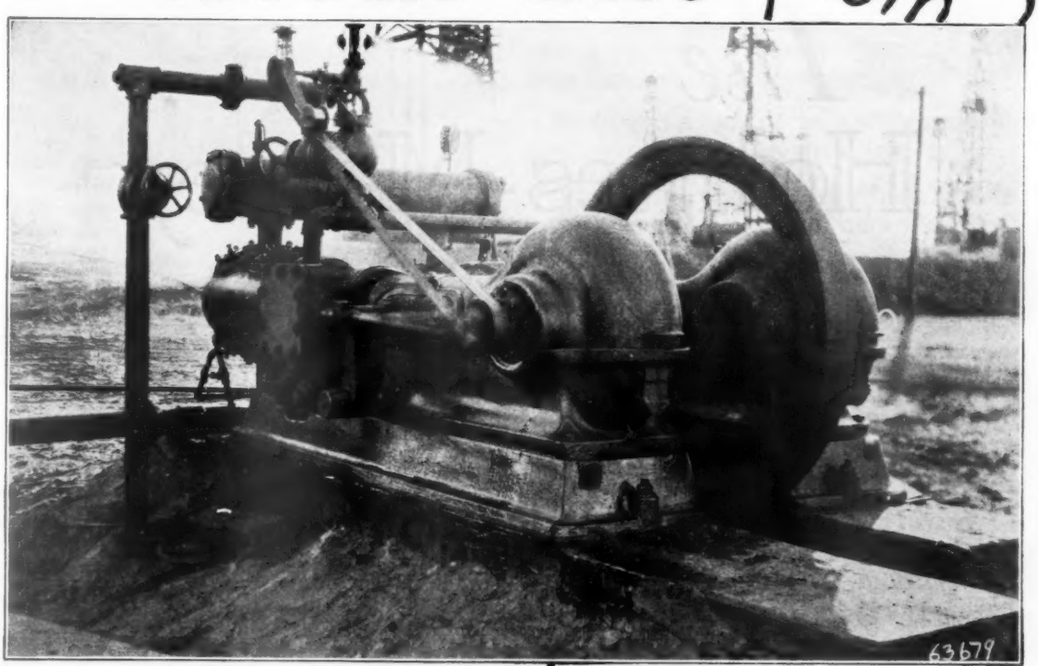
Bending Rolls

THE PETROLEUM IRON WORKS COMPANY

NEW YORK CHICAGO SHARON, PA. HOUSTON TULSA

P.I.W. SERVICE IS WORLD-WIDE

Increased Flow with Air-Lift from



GARDNER Compressors

For every oil field requirement—supplementing gas pressure with air lift; building up rock pressure on oil sands; cleaning out wells; gasoline extraction, etc.—Gardner Compressors excel.

Light, efficient Duo-Plate valves; ample cooling facilities; automatic and positive lubrication; adjustable bearings and easy accessibility to all working parts are a few of the Gardner features which insure your satisfaction.

Send for literature giving complete information.

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GARDNER
GOVERNORS
PUMPS · COMPRESSORS

GARDNER

The Holmes-Manley *Cracking* Process

Flexibility of Operation.

High Yield of Quality Gasoline direct from the Unit.

Fractionation and Condensation under Full Operating Pressure.

High Yield of Liquid Products with a minimum yield of fixed gas and carbon.

Low yield of Residue Fuel Oil of good Quality.

Relatively low Operating Temperatures.

Ease of Control.

Long Runs and High-percentage of Operating Time.

Low Labor and Fuel Costs.

Address Inquiries to

THE TEXAS COMPANY

W. S. S. RODGERS

17 Battery Place, New York, N. Y.

Branch Office

816 Palace Building, Tulsa, Okla.

WHAT IS A STELLITED TOOL?

MILLING TOOL

FISH TAIL BIT

RING FOR ROTARY DISC BIT

You may have asked this question. Here is an answer.

HAYNES STELLITE is not an untried, fly-by-night metal. Stellite Cutting Tools have been standard equipment in metal working plants for years on jobs where extreme abrasion resistance is necessary.

Stellite is a cast metal and cannot be formed or shaped except by grinding.

The Stelliting process, which means flowing a thin coating of Stellite on a wearing surface, was, therefore, developed for the purpose of obtaining an easily worked tool plus the advantage of a hard wearing surface or cutting edge.

That's why oil men became interested in this metal. The performance of Stellited Bits has justified their interest, for Stellited Bits will average twice as much hole per run.

You may not know how Haynes Stellite is being used. In succeeding advertisements we shall discuss the proper methods of making Stellited Tools and their performance in actual operation.

If you haven't tried Stellited Tools, get in touch with our nearest District Office for a demonstration.

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

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HAYNES STELLITE

Gulf Refining Company

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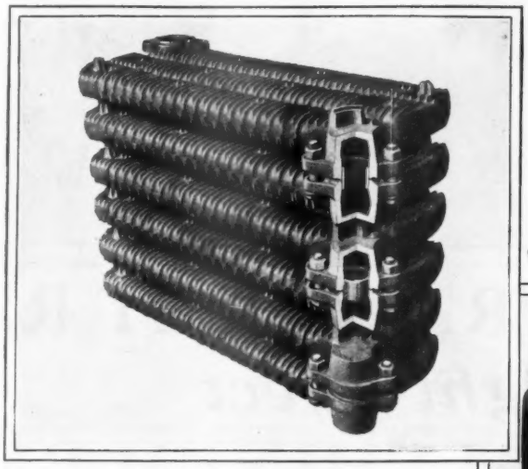
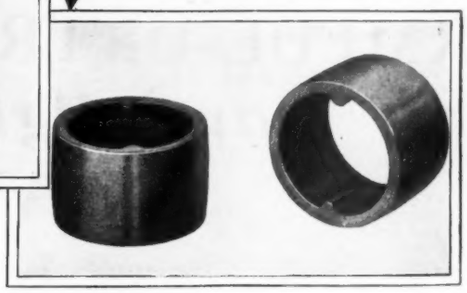
STERLING



Stack of STERLING Oil Condensing Sections. Cut-open view to show new Ground Joint. Supplies the Petroleum Industry with rugged construction and *tight* joints, under high pressures and temperatures.

New Ground Joint Nipple is lathe-turned to the arc of a true circle, thereby adjusting itself accurately to any cocking or inaccurate assembling. Both Nipples and Sections are made of ARCO Metal (corrosion-resisting), hence joint is not affected by expansion or contraction. Will remain *permanently* tight.



Announcing—

The *New* Ground Joint on STERLING Sections and Accessories

Made of ARCO Metal

Changes in Distillation practice, necessitating higher pressures and temperatures, are now fully met by us in these re-designed STERLING Sections and Accessories with Ground Joints.

The new Ground Joint, with its accurately crowned or arc-formed surface, will stand as great pressures as the Sections—which guarantees against leakages. Further, it has been demonstrated that the new Ground Joint facilitates installations, with ordinary labor. Less than half the time is required to erect these Sections with Ground Joints.

Although the extra equipment and processes employed in producing these Nipples and the fine machining of Sections entail greater investment and expense on our part, no extra charge will be made therefor.

Under test at one of the country's largest Refineries, the Ground Joints held without leaks or sweating under 150 lbs. cold water pressure for 24 hours. After operating at this Refinery under conditions which caused the assembled Sections and Accessories to reach a temperature of more than 500 degrees, F., the Sections and Ground Joints held against a test pressure of over 500 lbs. (cold water).

STERLING Oil Sections with Ground Joints are already being used successfully, in several notable installations, on higher temperatures and pressures than was possible with the former Joints.

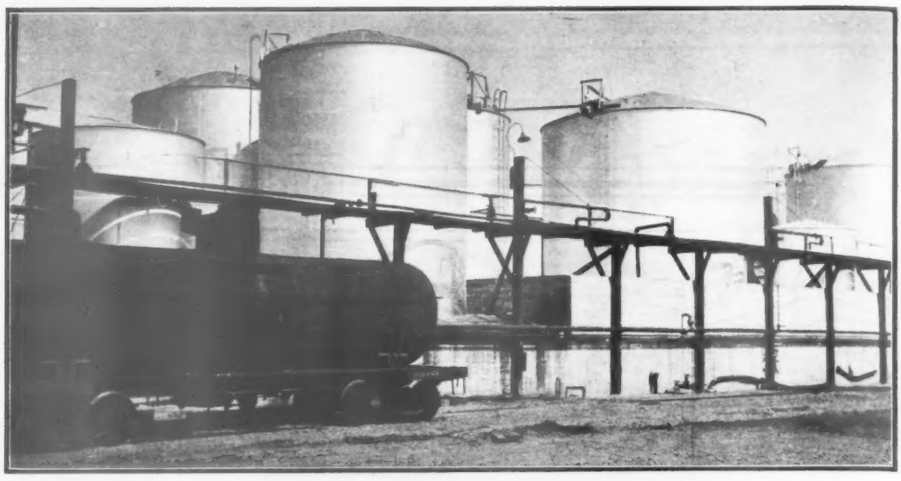
* * *

A New Catalogue on the STERLING Ground Metal Joint will be mailed free on request.

AMERICAN RADIATOR COMPANY

Industrial Division No. A

40 West 40th Street NEW YORK
816 South Michigan Avenue CHICAGO
935 Kennedy Bldg. TULSA
1214 Quinby Bldg. LOS ANGELES



California Petroleum Corporation Gasoline Tank Coated with Bitulumin

HARMFUL ULTRA VIOLET RAYS *have slight effect* ON ALUMINUM PAINTS

Bitulumin Largely Immune. Deflects 86% of Destructive Light Rays. Outlasts Lead and Zinc Paints Two to One.

A correctly made aluminum paint like Bitulumin will outlast any lead and zinc paint on exposed surfaces by two to one. This is because of Bitulumin's peculiar "weather" resisting qualities. Paint's worst enemy is the sun, whose destructive Ultra Violet Rays break down paint surface, allowing moisture to penetrate.

Bitulumin is largely immune to this attack because it offers to the sun's rays an aluminum armor which turns away 86% of them.

In turning back destructive light and heat rays, Bitulumin makes a cooler surface, and in the case of tanks reduces evaporation.

Bitulumin, while extremely popular for painting oil storage, is not limited to that field. It is a many purpose paint and has demonstrated its unusual qualities for painting tanks, tank cars, refinery equipment, metal buildings and roofs, smoke stacks, steel bridges and many others.

Bitulumin, put up in double containers to insure fresh mixing, is manufactured by Hill, Hubbell & Company, manufacturers of a special line of paints for the oil industry.

HILL, HUBBELL & COMPANY

Manufacturers of

Highest Grade Oil Industry Paints and Pipe Line Coatings

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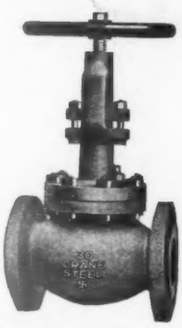
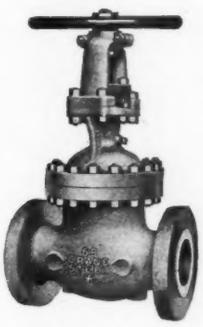
For super-pressures in the oil and gas industry



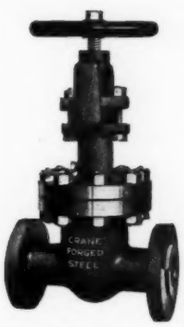
Globe Valve No. 151 X

Series 30, cast steel, flanged. Forged steel glands, generously proportioned. Can be repacked while wide open and under pressure. For steam working pressures to 300 pounds with temperatures to 750° F.; hot oil to 275 pounds with temperatures to 900° F. See Circular 193.



Gate Valve No. 76 X

Series 60, cast steel, outside screw and yoke. For steam working pressures to 600 pounds and temperatures to 750° F.; hot oil to 550 pounds with temperatures to 900° F.; and oil, gas, water or air to 1000 pounds at atmospheric temperatures. See Circular 193.

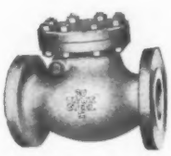


Gate Valve No. 79 X

Forged steel, flanged. One of a new line of forged steel valves and fittings with metal of uniform thickness, unusually dense, and free from sponginess. See Circular 198.

Unloading Valve

Cast steel. Spring-loading safety device to relieve any dangerous excess pressure in refinery apparatus. Can be used where hot oil would damage springs of relief valve. See Circular 178, page 18.



Swing Check Valve No. 159 S

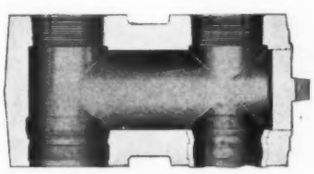
Series 30, cast steel. Recommended for use in hot oil lines. See Circular 184, page 11.

Flanged Tee

Cast steel flanged fittings and flanges are supplied in a complete line for use with hot oil at pressures to 600 lbs. and temperatures to 900° F. See Circular 192.

Elbow No. 760 D

One of a group of cast steel fittings. Long thread chambers. For cold oil, gas or water working pressures to 800 lbs. See Circular 178, pages 46 and 47.

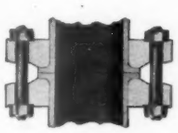


Steel Return Bends

Five inch, screwed, forged steel. Crane Co. also makes a full line of return bends in cast steel, and other metals; flanged and screwed; for all purposes.

Crane-lap Flanged Joint

Recommended for use with oil of high temperatures, especially where drawn tubing instead of pipe is used. Drilled to any flange template. See Catalogue 51, page 465.



Flanged Union No. 830 D

Steel, with ground joint. Will withstand severe strains in piping. For hot oil working pressures to 600 lbs. and temperatures to 750° F. Ground joints have proven adaptability to all classes of piping service. See Circular 178, page 36.

Learn more about these valves and fittings backed by 72 YEARS OF EXPERIENCE. Write for a complete set of circulars or catalogues covering the particular division of the oil or gas industry in which you are interested.

CRANE

Address all inquiries to Crane Co., Chicago

GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO

Branches and Sales Offices in One Hundred and Sixty-two Cities

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THE PETROLEUM APPLIANCE CO.
[THE MASTER MIXER HEAD]
CROSBY STEAM GAUGES AND VALVES.
LIQUID SAFETY VALVES and companion line of safety tank equipment.
WESTCOTT ORIFICE METERS.
METRIC IRONCASE METERS.
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MacDONALD 2Lt. 3 Diaphragm Meters equipped with 4 purging cocks for laboratory and charcoal testing.
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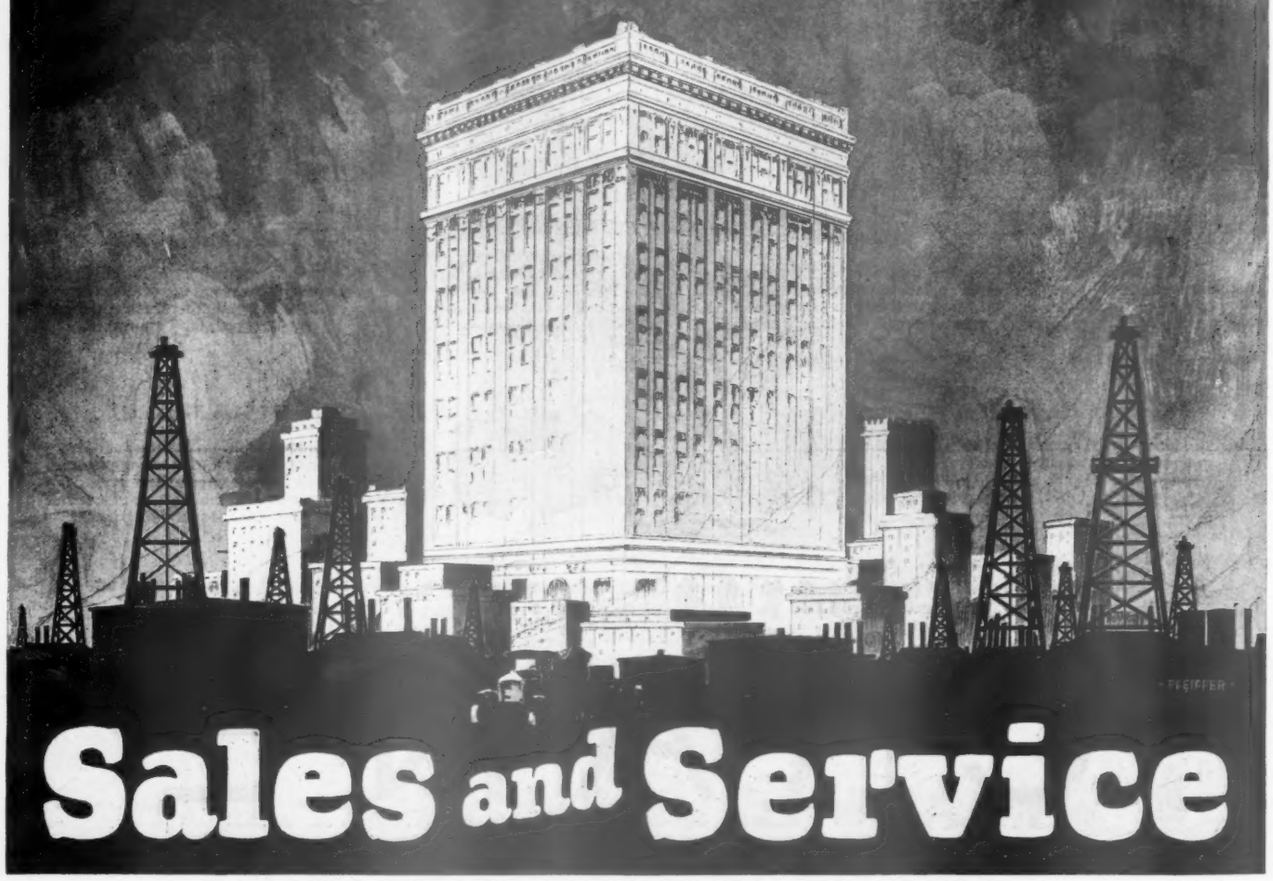
KREB'S LEVELING SADDLES.



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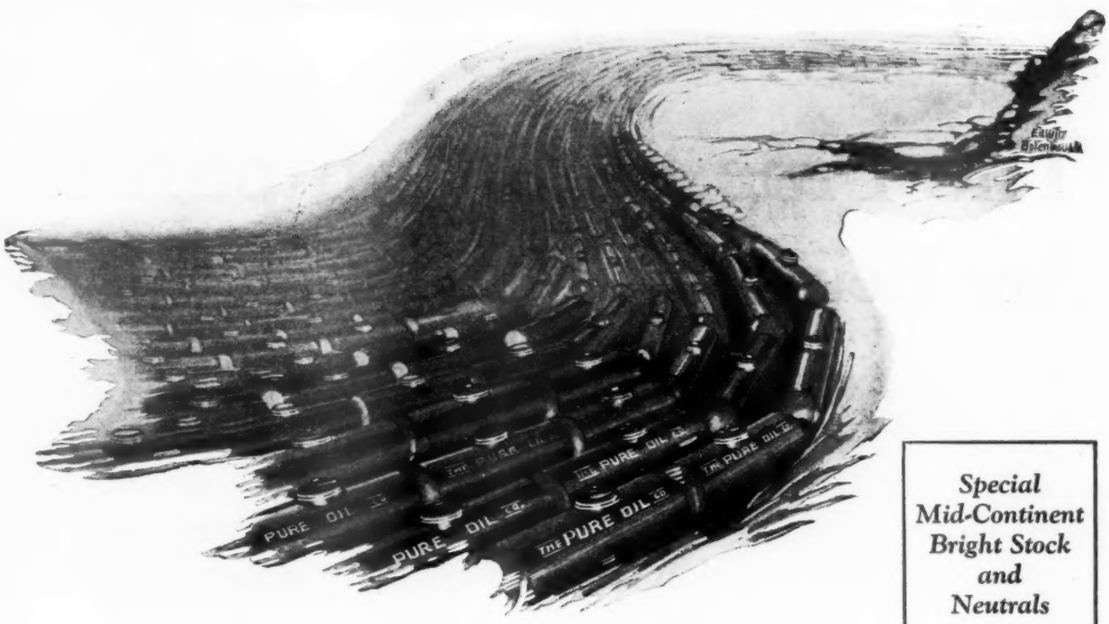

Special Mid-Continent Bright Stock and Neutrals

Thousands of Service Units

Like a mighty river rushing onward constantly, Pure Oil's Traffic Department gives its Service of Supply dependability of deliveries on the dot. Orders move with telegraphic speed. Products meet the most exacting specifications. No matter what petroleum product is needed or whether it's in barrels, trainloads, or cargoes—Phone, wire or write.

THE PURE OIL COMPANY
U. S. A.

Independent—and successful, through unvarying high quality in all its products

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MUSKOGEE, OKLA.
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HEATH, OHIO
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The Pipe Line Companies Are Being "Handed Something"

BY much improved tankage the producer is now handing on to the pipe line the large evaporation losses he formerly suffered.

Pipe line companies have found *by experience* that they, too, can hold these light ends by using Oceco Equipment. And the cost is a very small fraction of the loss from tanks not properly protected.

Be sure to specify *Oceco*—equipment *with a service record.*

THE OIL CONSERVATION ENGINEERING COMPANY

Headquarters for Tank Equipment

877 Addison Road Cleveland, Ohio

Engineering and Sales Service:

25 Broadway . . . . . New York
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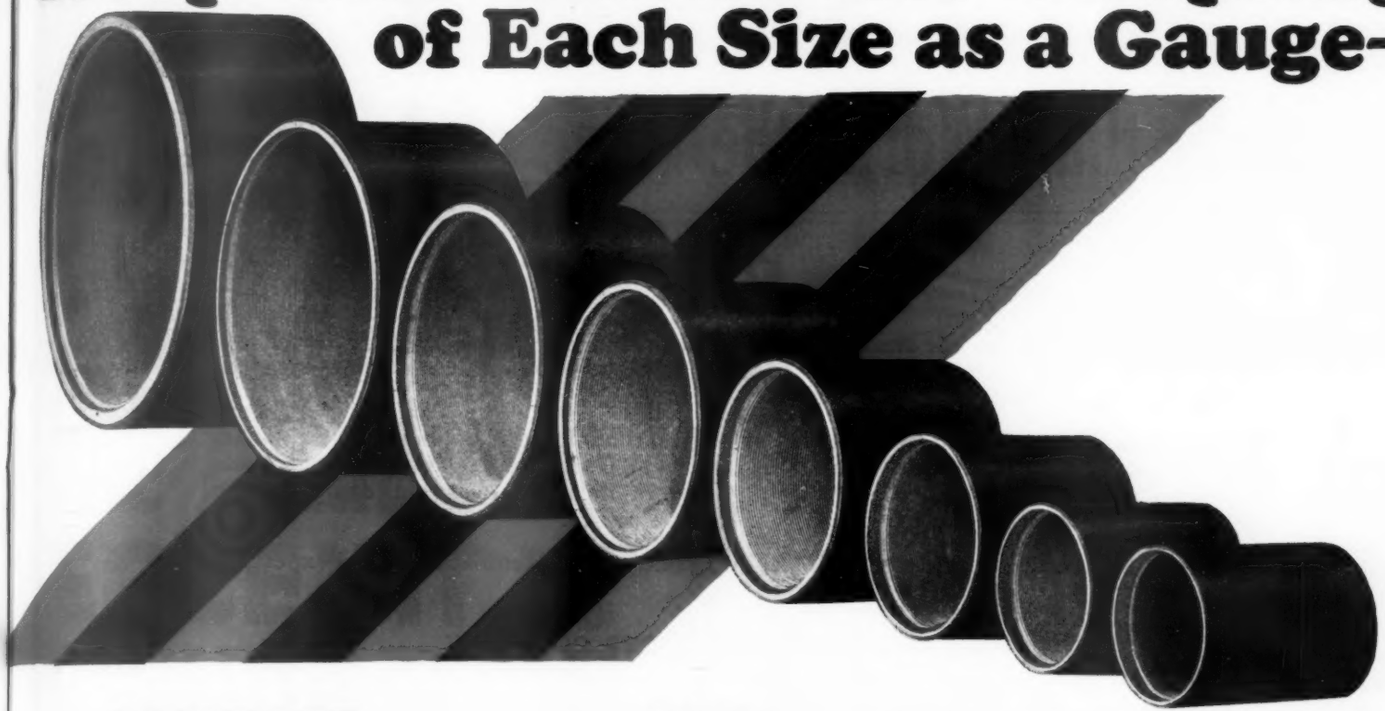
OIL TANK OCECO EQUIPMENT
SAVES EVAPORATION AND PREVENTS FIRE

Keep One Smithsteel Coupling of Each Size as a Gauge—



ACCURATE

UNIFORM

we'll keep your requirements in factory stock in the field

The accuracy of Smithsteel Couplings and the A. O. Smith Corporation Factory Stock of both California and A. P. I. Couplings in the Field will save time and money on re-conditioning pipe.

The factory stock in the field makes possible quick delivery to machine shops, oil producing companies and supply stores.

The accuracy and uniformity of Smithsteel Couplings makes certain that every coupling *will* fit if the pipe is threaded to either Briggs or A.P.I. standard.

Simply hold in your tool room one Smithsteel Coupling of each size you use. When you have a string of pipe to recondition, pick out the size and thread Smithsteel Coupling you need and draw on the factory stock for your requirements.

For quick service; address

A. O. SMITH CORPORATION

Coupling Division

508-509 Mid-Continent Bldg., Tulsa, Okla.
1701 Magnolia Building, Dallas, Texas

Milwaukee ∴ ∴ Pittsburgh

SMITHSTEEL COUPLINGS

The Standard of the Oil Fields for Reconditioning Pipe

More than Worth the Price of Admission

Requests for copies of the Natural Gas Industry Number, published June 16, the biggest number ever published by The Oil and Gas Journal, continue to pour into the office by wire, by mail and in person.

Once more it is necessary to say that these special numbers are published as a matter of information for our regular subscribers and while every effort is made to provide for additional demand it is impossible to gauge publication to avoid disappointing some occasional readers who would like to have copies.

On the other hand, the following letter from one of the foremost technical experts in the industry is suggestive:

UNIVERSAL OIL PRODUCTS COMPANY
312 South Michigan Avenue
CHICAGO

June 21, 1927

The Oil and Gas Journal:

May I express my appreciation to your staff and contributors to the Special Number of The Oil and Gas Journal on the "Natural Gas Industry."

This edition is a veritable textbook upon the subject. It is more than worth the price of admission of $6.00 and I have 51 more editions coming.

Yours very sincerely,
GUSTAV EGLOFF.

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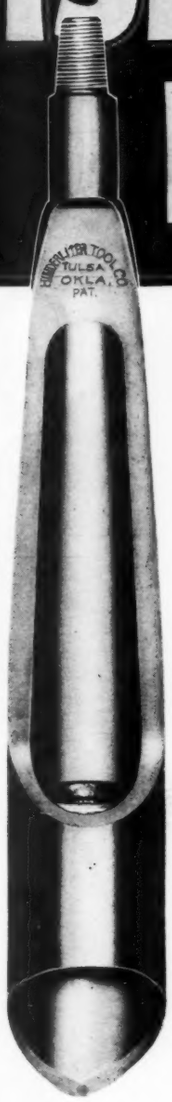
WHEN FISHING IN CAVEY HOLES



The Hinderliter ECCENTRIC COMBINATION SOCKET

is designed for fishing out bits and other tools lost in cavey holes, especially where bit has fallen over to the side of the wall.

When the Hinderliter Eccentric Combination Socket enters the enlarged hole below the casing, the tools will naturally swing out to the center of the hole, permitting the eccentric bowl to extend far out into the enlarged, caved hole.

The gripping device is composed of three slips, bound by a flat steel ring—absolutely eliminating any tendency of displacing a single slip. The tapered point of the bowl, and the eccentricity of Socket construction, insure greater coverage of hole area.

The construction of the Hinderliter Eccentric Combination Socket is very strong and rugged, and it is used to penetrate soft formation with safety.

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Tulsa, Oklahoma

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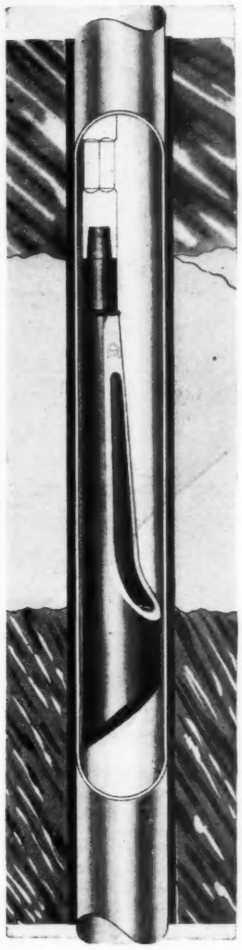
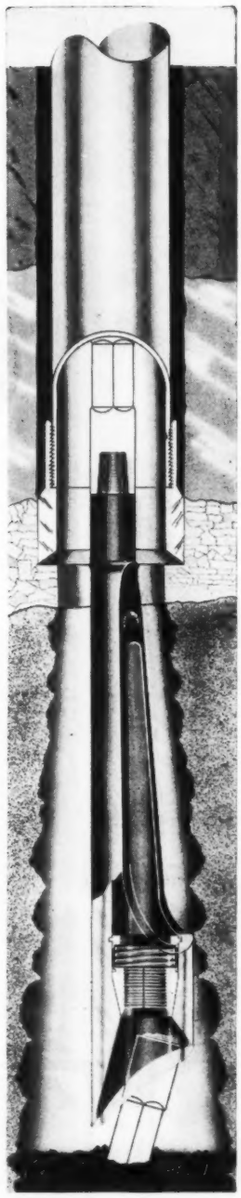


Above—showing how Hinderliter Eccentric Combination Socket passes through casing.

Right—Showing how Hinderliter Eccentric Combination Socket catches bit which has fallen to side of enlarged hole.



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Reg. U. S. Pat. Off.

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If You Use C & W Type Pumps for Sand and Gas Trouble

In the C & W Pump, the fluid enters at the top of the pump and does not permit the gas to get into the pump barrel. Instead the gas passes on up and around the tubing while the oil flows down into a reservoir provided for it. A pipe gas anchor is screwed to the lower end of the valve body and extends down about two-thirds of the depth of this reservoir. The fact that the fluid level never is lower than the top of the pump helps to gravitate the oil into the valves allowing the seats and balls to act freely, extending their life from one to three times longer than usual.

The C & W Pump is designed particularly for use where there is considerable gas to handle, and is very effective in preventing emulsion where considerable water is encountered with the gas and oil. In one instance a C & W Pump cut the emulsion from 24% to 4%; in another from 18% to 2%. In three wells production was increased an average of thirty barrels a day for each well. Wherever used it has been possible to slow the wells down approximately 10 strokes per minute while greatly increasing production. If you have gas, water and sand conditions, investigate this pump.

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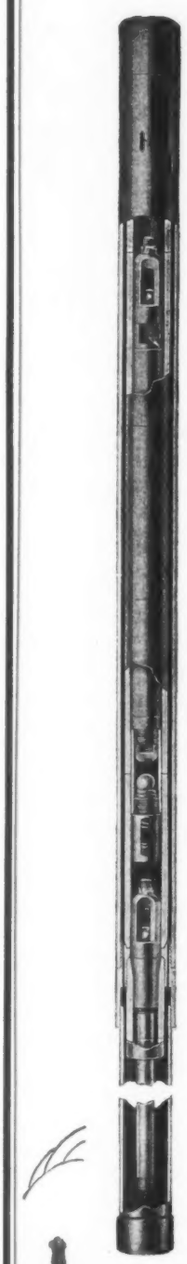

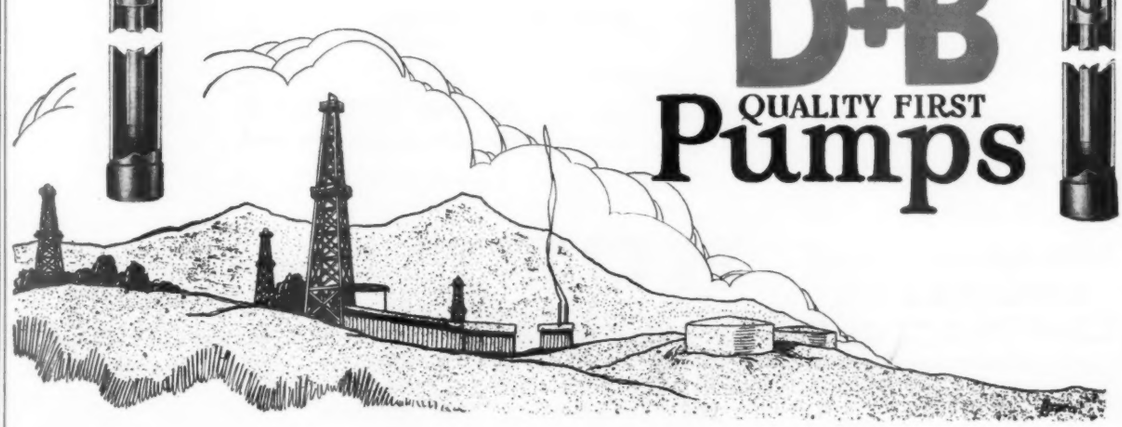

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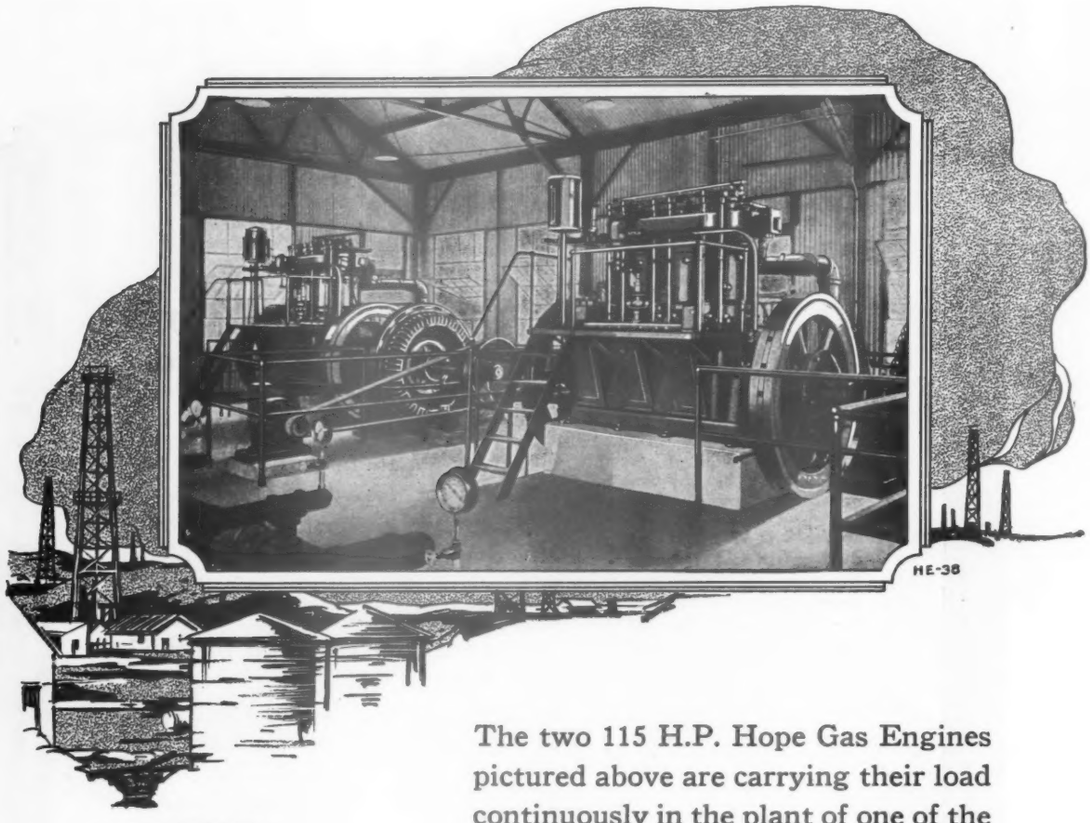

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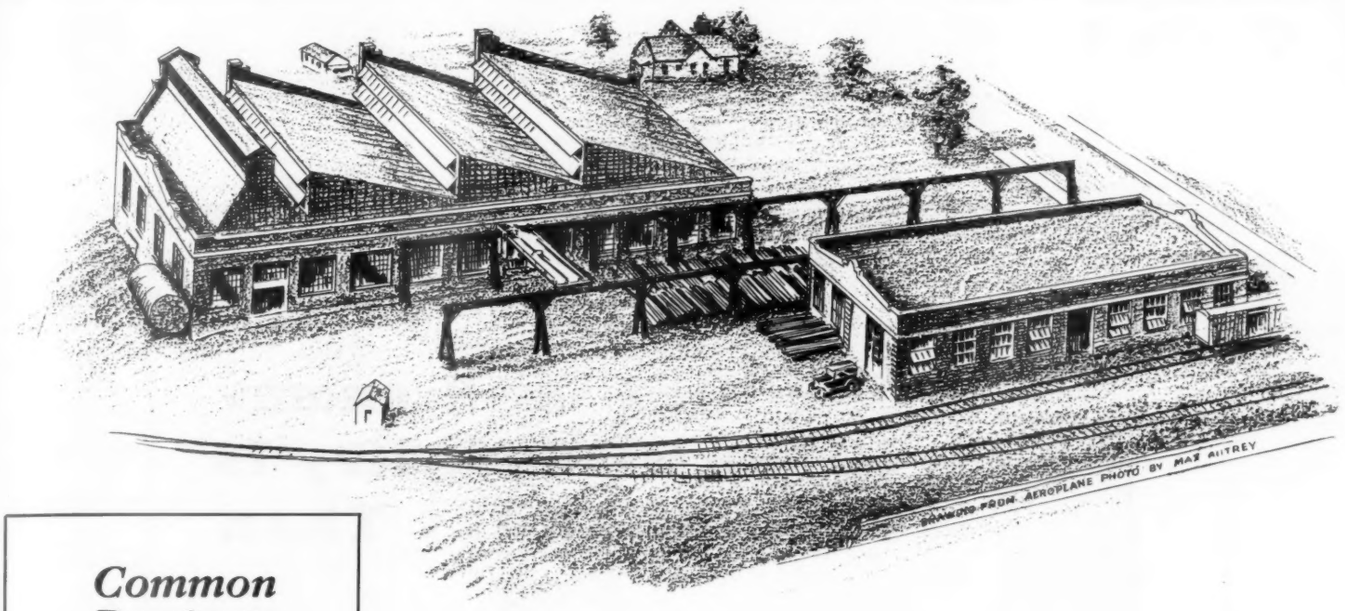

Common Products Uncommonly Good

The Mutual Supply Company, 503 Washington St., Houston, Texas, and the General Oil Tool Company, 406 West First Street, Tulsa, Oklahoma, carry factory warehouse stocks of such PELCO Products as: Bailers—Bailer Tops and Bottoms—Bits, Fishtail—Clamps, Anchor and Casing—Casing Heads, La. Pattern Stuffing Box—Collars, Forged Steel Drill—Cutters, Inside Casing—Devices, Liner Setting "J" Tool Type—Rotary Fishing Tools—Hooks, Safety Sucker Rod and Tubing—Joints, Rotary Tool—Nipples, Belled—Nipples, Extra and Double Extra Strong, for drilling—Packers, Canvas and Burlap collapsible—Packers, Rope—Seals, "J" Tool Lead—Shoes, Forged Steel Drive and Set—Shoes, Tool Steel Rotary—Strainer, Water Well—Tongs, Break-Out—Etc., Etc.

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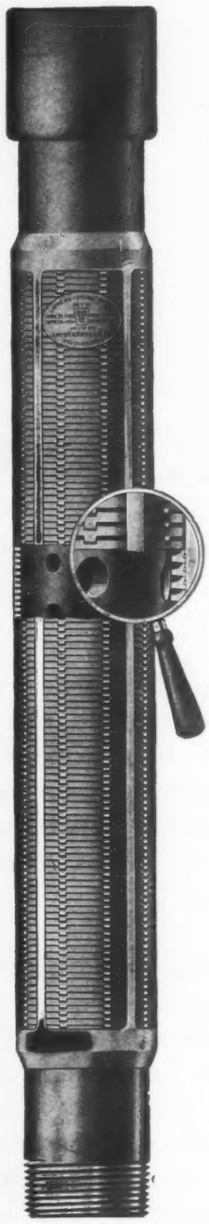

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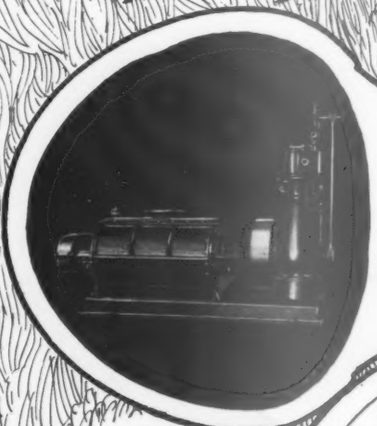

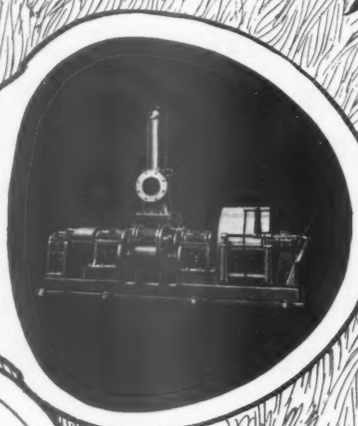

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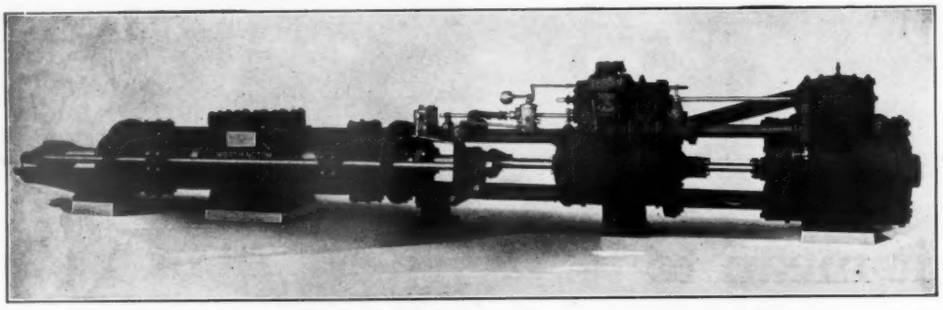
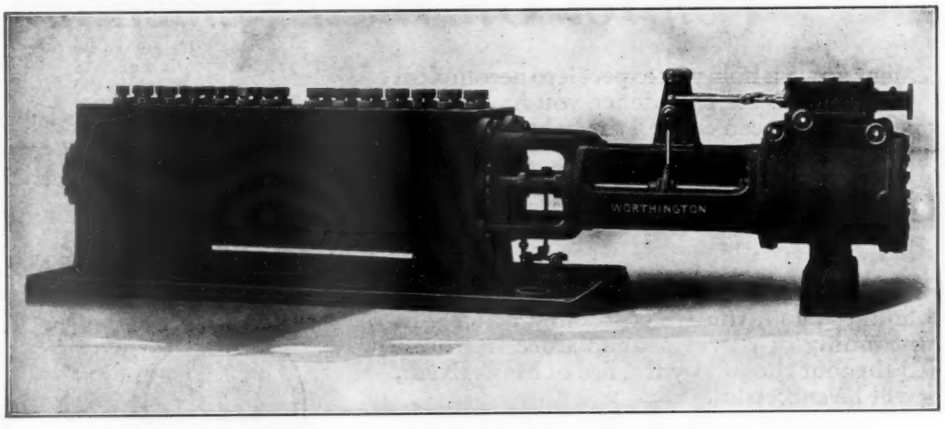
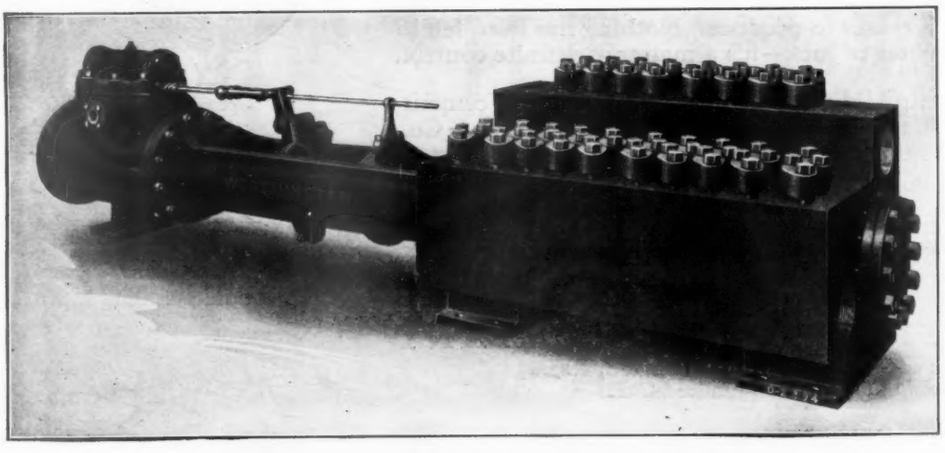


16"& 24"x 5"x 24"
Single Plunger
Pattern



18"x 8½"x 18"
Duplex Piston
Pattern



16"x 9"x 24"
Single Piston
Pattern

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MasterKem may also be used to produce Better Concrete for all Purposes

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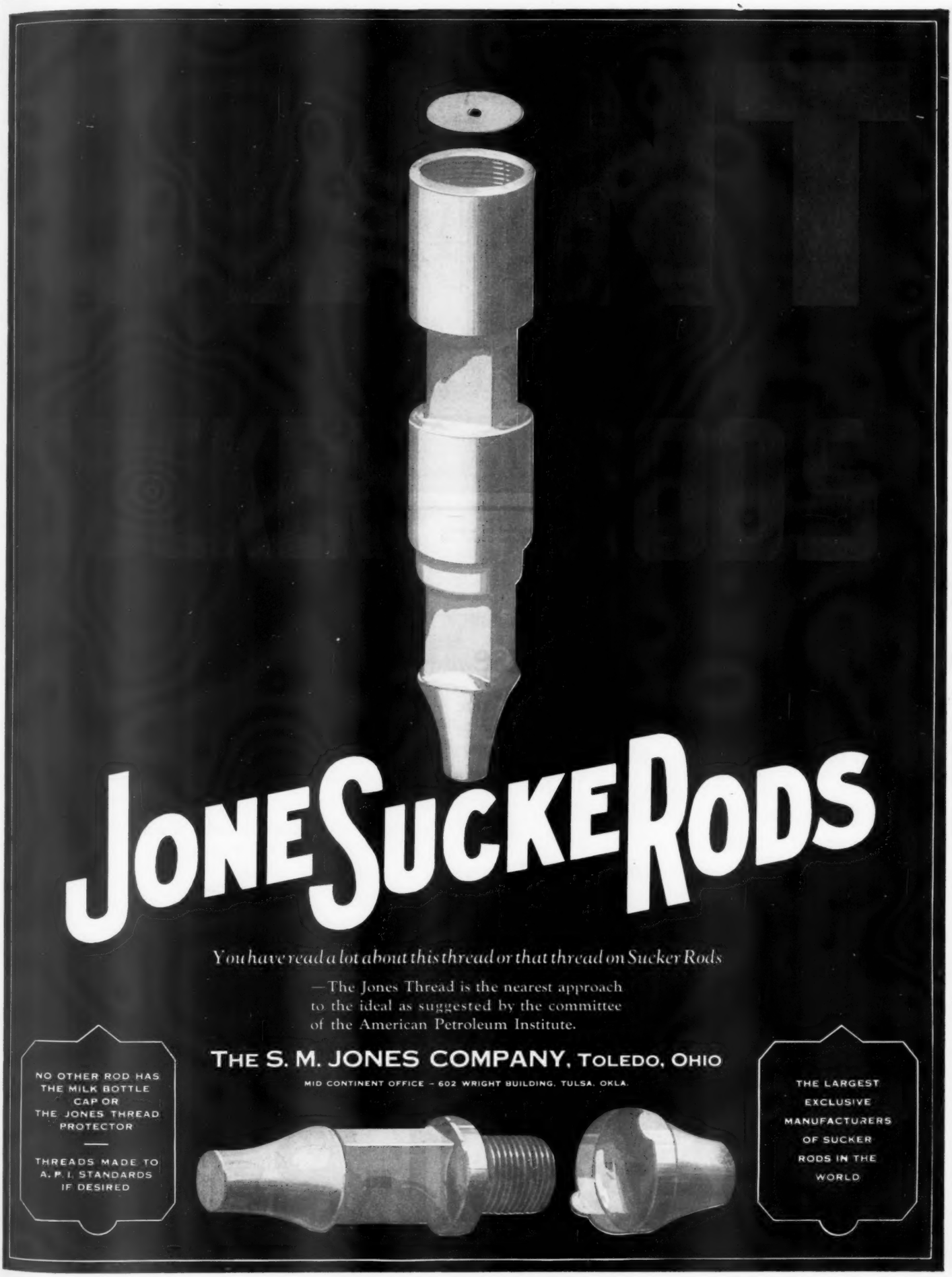
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But—for that tough job, where the cavings have packed hard—there is the Bit Bottom. As its name implies, it is used for drilling and breaking the sand loose. It will break up the hard formations so efficiently, and pass the material through to the pump so quickly, that the pump may be operated at full capacity without being delayed to any extent—even by the worst conditions encountered. To be prepared for any job, no matter how difficult, get the Larkin and have it equipped with both the Regular Bottom and Bit Bottom to give better than ordinary cleaning-out service.

This *Leader of the Larkin Line* will clean out your wells quickly, thoroughly; it will last through years of hard service. Even more than when the Eastern fields were young, it is the most efficient sand pump on the market.

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Made only by

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at BUTLER, PENNA.

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In the Larkin Regular Bottom, the legs are short allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessary suction to remove the greatest amount of sand and sediment quickly.

Bit Bottom

This bottom is used for drilling and breaking the sand loose. Its chisel shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.

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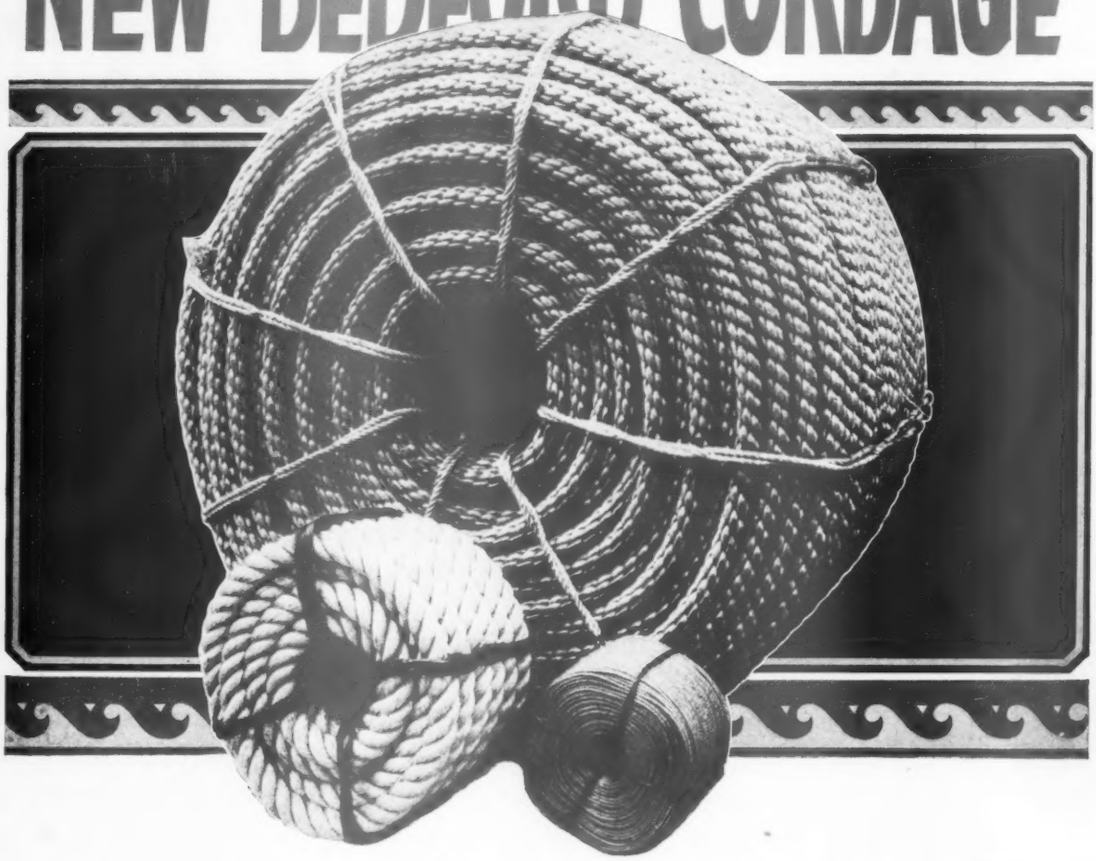

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Gushers and Air Boost Seminole Output

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

Little Relief From Big Production Expected in Oklahoma for at Least Two Months. No Distress Crude on Market

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

Completion of several wells of the gusher type in the Seminole area of Oklahoma together with the drilling deeper of wells in the Bowlegs Pool of that section and the application of air to wells there all combined to increase production of the Seminole area to 416,000 barrels on Tuesday of this week—a new high peak. Events of the past week simply served to strengthen the belief the output of the Seminole area will not show any material decline for approximately 60 days and that the average production over that period probably will be well around 365,000 or 370,000 barrels.

The situation in the Mid-Continent area, which admittedly controls the crude oil market of the country at this time, is unique in one respect at least. Despite the enormous production of the Seminole area and prospects this output will be maintained at a very high level during the next two months at least, crude oil purchasers are anxious to make connections and there is little or no crude begging a market. It is estimated approximately 150,000 barrels a day is being stored in Oklahoma and Kansas at this time but owners of this crude show no disposition to sell and seemingly intend to hold it for higher prices.

Seminole crude is in great demand because of its high gravity and large gasoline content. On the other hand buyers seem to feel as long as there is such a big production in Oklahoma, the demand for Texas Panhandle crude will slacken, at least for the time being, and it is felt development work in the Panhandle will be held back until the flush is off at Seminole.

Fortunately for the industry, the big potential production in the Yates Pool in Pecos County, Texas, is in the hands of two companies who will control the output as the market demands. The completion of a well there last week which flowed 17,000 barrels on Monday of this week, shows what may be expected from that area.

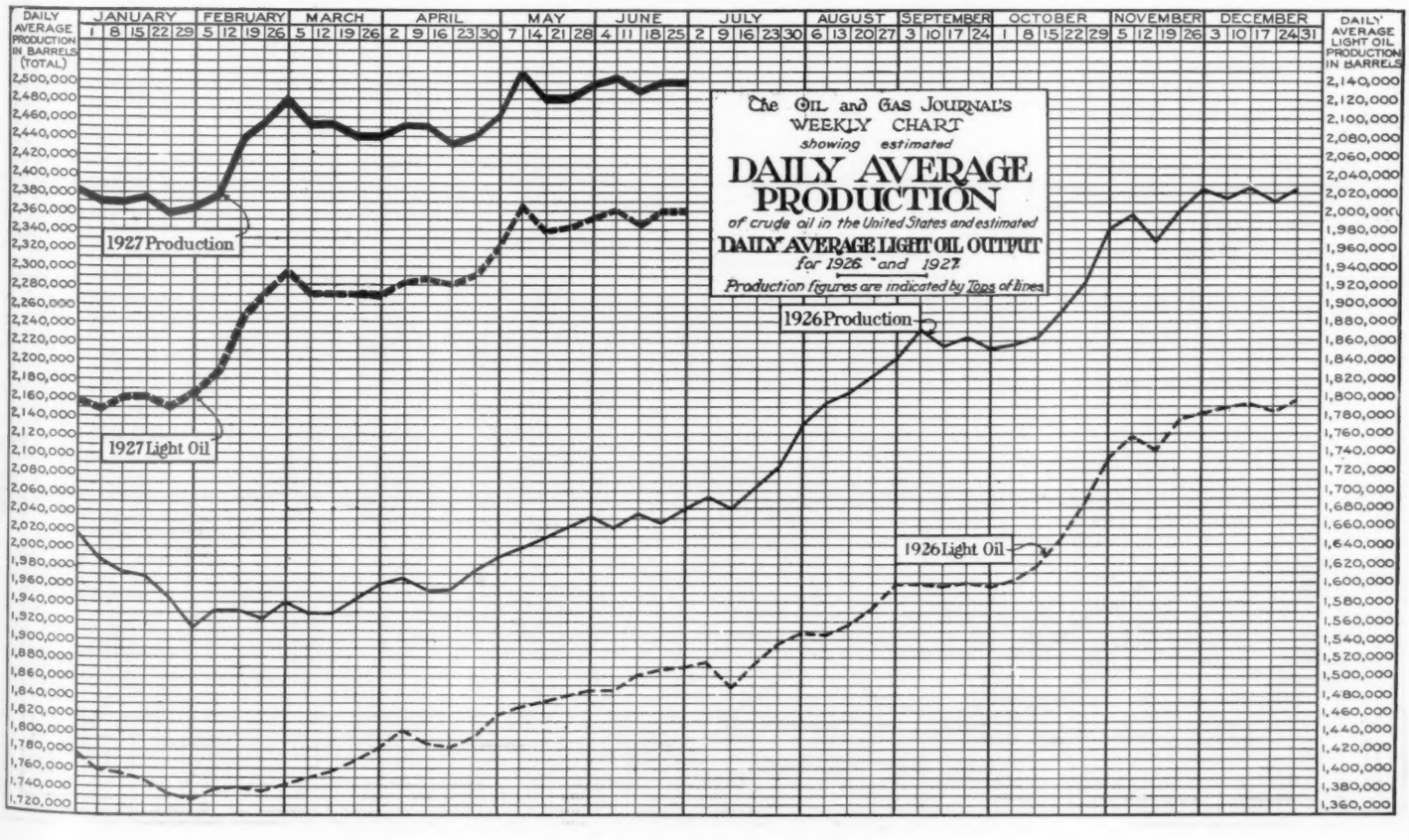
The period of maximum consumption of gasoline is expected to start this week with the week-end and holiday travel and the opening, in full blast, of the vacation season will go a long way towards aiding the situation generally.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended June 25, and a comparison with the previous week follows:

	June 25		June 18	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	21,685	.....	21,730	.....
Burbank	43,135	.....	44,105	.....
Other Osage Fields	31,415	.....	32,010	.....
Cushing and Shamrock	21,495	.....	21,380	.....
Bristow and Eastern Bristow	26,360	.....	26,570	.....
Cromwell	12,245	.....	12,945	.....
Garber	13,640	.....	14,020	.....
Blackwell-Braman	11,040	.....	11,860	.....
Seminole	393,910	.....	379,510	.....
Wewoka	18,975	.....	18,735	.....
Northern Miscellaneous	113,495	.....	114,985	.....
Southern Fields	67,620	.....	67,890	.....
Total Oklahoma	775,015	.....	765,740	.....
North Louisiana	41,025	8,865	40,185	9,130
Arkansas	24,160	88,935	24,025	88,560
North Central Texas	160,845	.....	162,190	.....
West Texas	116,147	.....	109,950	.....
Texas Panhandle	120,880	.....	124,225	.....
East Central Texas	34,400	.....	34,453	.....
Kansas	111,945	.....	112,315	.....
Total Mid-Continent Area	1,384,417	97,800	1,373,083	97,690
Gulf Coast	.....	154,855	.....	153,456
Southwest Texas	.....	33,315	.....	34,337
Eastern	111,500	.....	112,500	.....
Rocky Mountain Area	86,340	.....	85,356	.....
California—				
Santa Fe Springs	41,500	.....	42,000	.....
Long Beach	93,000	.....	92,500	.....
Torrance	6,000	17,500	6,000	17,500
Huntington Beach	74,000	.....	76,000	.....
Dominguez	16,000	.....	16,000	.....
Rosecrans	9,500	.....	10,000	.....
Inglewood	22,500	12,000	23,000	12,000
Ventura Avenue	37,500	.....	36,500	.....
Seal Beach	65,000	.....	74,000	.....
Remainder of State	55,000	186,000	55,000	187,000
Total California	420,000	215,500	431,000	216,500
Total United States	2,002,257	501,470	2,001,939	501,983
Grand Total	2,503,727		2,503,922	

Total Decrease, 195 Bbls.; Light Oil Increase, 318 Bbls.



Minor Changes in Oklahoma Market

Believe Natural Gasolines at Bottom. Several Refiners on Tuesday Advance U. S. Motor Price to 7 Cents

By C. O. Willson

The entire tank car price list on refined products in Oklahoma (Group 3) remained practically unchanged during the past week. The only reductions were in natural gasolines and wax. In the case of natural gasolines the decline was less than during any of the previous three weeks in June. The low natural prices have finally attracted more buying which led to the belief the first of the week that there would not be additional reductions. With Grade A selling at 4½ cents again there is wide enough spread between this price and the prevailing market for refinery gasoline to make the purchase of natural gasoline attractive to refiners or jobbers as blending material.

When natural gasoline prices after a steady slump for several weeks dropped to a low of 4½ cents the last half of April several large buyers in the coastal areas entered the market with large purchases resulting in a rapid advance which pushed Grade A to a high of 6 cents. Some of the manufacturers are expecting these large refinery buyers to again get into the market.

The wax market was more active than usual during the past week. However this was due to the fact that a couple of refiners who had refused to sell at the prevailing market reversed their attitude and accepted substantial orders at prices under the generally accepted market of the previous week. These orders were for export shipment.

Gasoline Situation

The refinery gasoline market presents a somewhat mixed situation. Prices were not generally changed during the week. In fact, as shown in the accompanying chart, there have been only minor changes since early in May. May prices on 58-60 U. S. Motor gasoline averaged just a little higher than in April and the June average was a little higher than in May.

Most refiners had expected July to show an even more marked improvement over June. As June is being brought to a close this hoped for development in July is not so certain.

On Tuesday several of the larger refiners in Oklahoma advanced their price on 58-60 U. S. Motor gasoline to 7 cents to the trade. The only effect of this action on Tuesday was to advance some of the 6⅝-cent quotations from other refiners to 6¾ cents. Similar action the last week in May failed to receive the necessary buying support. Its success at this time will depend on the attitude of the remaining refiners in the state and other refiners located in differential territory. A similar effort to advance prices also was reported in North Louisiana.

During the past week 58-60 U. S. Motor gasoline for delivery over any part of July has been quoted rather freely at the present spot quotations. Most of these quotations have been at 6¾ cents although the 6⅝-cent figure also has been heard. Some of these lower quotations are coming from refiners located in differential territory. Several refiners are refusing to consider the July business under 7 cents.

The practice of quoting 30 or more days in advance, especially in a weak market, has always been condemned by the Mid-Continent refining industry generally for the reason that it tends to prevent price improvement in spot market. However this condemnation has yet to bring about any general curtailment of the practice. Refiners who make a prac-

(Continued on Page 138)

REFINED MARKET BAROMETER

With reports from all sections indicating that the season of maximum consumption has arrived, gasoline prices at refineries were generally steady during the past week. Local advances materialized in two refining areas. Confidence is expressed that July and August—the two main gasoline consuming months of the year—will bring a marked improvement in the gasoline demand at refineries which will be reflected in prices. Natural gasolines east of the Rocky Mountains continue weak at prices which are at the lowest levels in several years. Summer dullness was apparent in the kerosene movement, although there were no general changes in prices. Distillates are in good demand both for spot and contract shipment. Despite heavy receipts of both California and Mexican fuel oils, the demand for bunker oils at coastal refineries is brisk. The fuel oil and gas oil demand at interior refineries continues steady. Rumbles of price cutting in the sale of lubricants are heard both in the eastern and western refinery markets, although this situation has not been reflected in any general price reductions. In wax there is a more active demand for the crude wax than for refined wax, which continues dull. The export demand for all products was steady and firmer than usual.

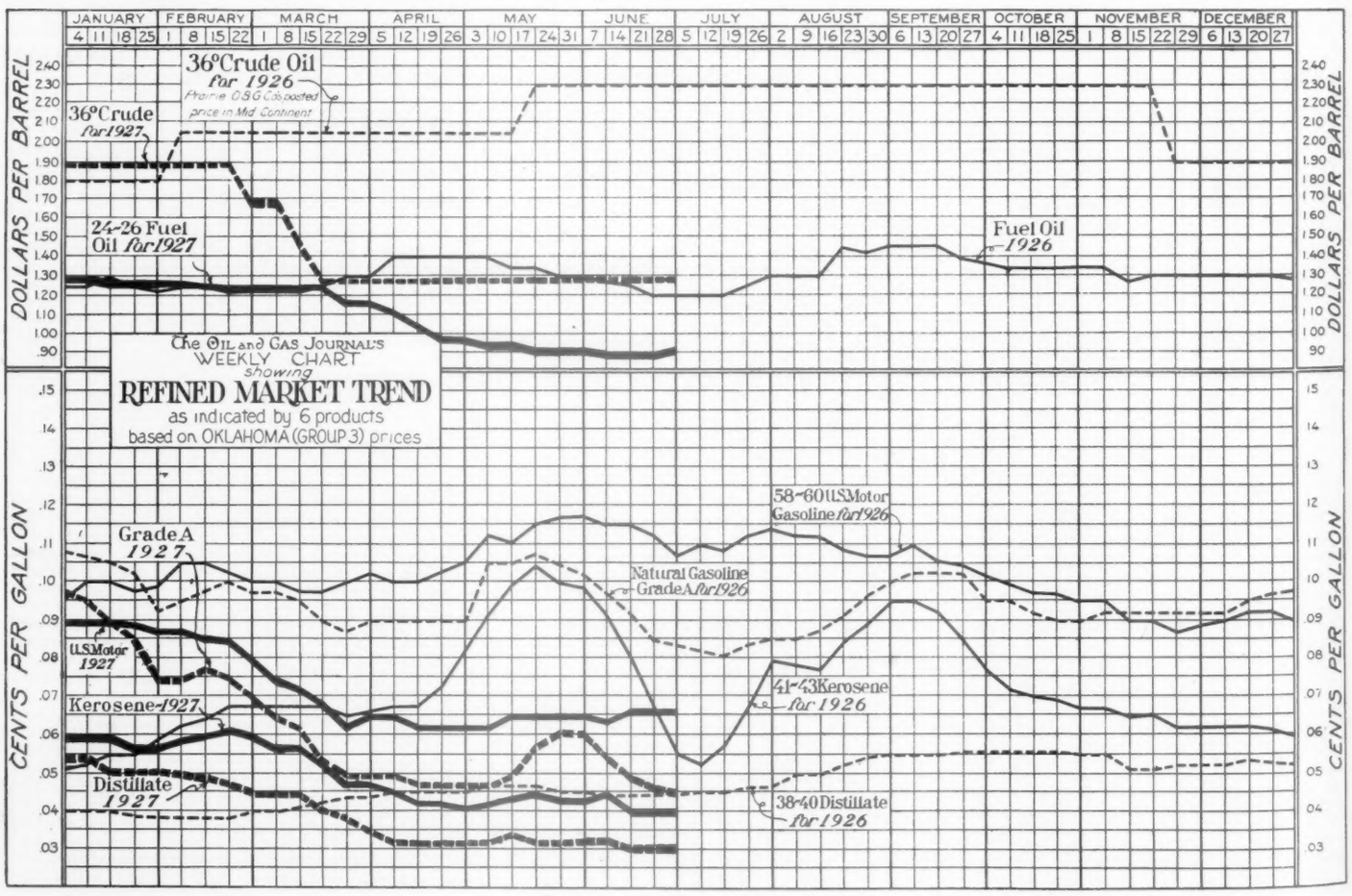
Mid-Continent—Gasoline prices advanced in North Louisiana area by all refiners with several refiners in other areas advancing their quotations. Domestic gasoline movement fair with export demand inactive. Natural gasolines weak and prices lower. Kerosenes inactive. No change in distillates. Fuel and gas oils steady in all areas. Wax prices lower.

Atlantic Seaboard—Marked improvement in gasoline consumption resulting in better market tone. Fair demand for kerosene, prices unchanged. Furnace oil active. Gas oil dull. Good demand for fuel oil. Lub oils quiet.

Pennsylvania—Prices unchanged. Good movement of gasolines. Kerosene slow.

Chicago—U. S. Motor gasoline steady. Higher gravity gasolines quiet. Fuel and gas oils strong. Kerosene quiet with prices unchanged.

California—Domestic gasoline continues to improve with less disposition to reduce prices. Natural gasolines also more active. Other products unchanged.



California's Remarkable Development

All Branches of Oil Industry Have Made Amazing Strides. Present Condition and Indicated Outlook

By L. P. Stockman

LOS ANGELES, Calif., June 25.—The growth and expansion of the oil industry in California during the past five years has been little short of phenomenal and, while great stress has been laid from time to time on the overproduction situation which started back in 1923 and has continued uninterrupted ever since, this is really but one phase of the general expansion which has taken place during this period. All branches of the industry have made rapid strides and those who are waiting the return of "the good old days" are in for a sad awakening. No single company can possibly expect to dominate local markets within the next 10 years. Those days went out along with the nickel cigar and bock beer.

Crude oil reserves, of course, will eventually give the holder a big advantage, but improved methods of refining and continued improvement in the various cracking processes will probably prolong this period of crude oil supremacy. The advent since 1920 of Santa Fe Springs, Huntington Beach, Inglewood, Long Beach, Rosecrans, Dominguez, Torrance and Seal Beach, all of which lie within a 50-mile radius of Los Angeles, completely changed transportation and marketing conditions on the Pacific Coast, particularly in Southern California.

Increase in Refineries

These eight fields, which, since discovery, have produced a total of 653,925,756 bbls. of crude in addition to great quantities of natural gas and casinghead gasoline, have resulted in the erection of modern refineries in Southern California by the Shell, Pan American and California Petroleum Corp. Several smaller independent plants were also put up during this rather brief period, and it is needless to say that all of the older refineries were enlarged and many remodeled, and while it is only possible to call attention in a general way to changes and improvements in conditions due to the discovery of these eight major fields of comparatively recent origin, no one can easily appreciate the change which has taken place by making a few simple comparisons.

Pipe line mileage has more than doubled during this period, as has also production and development work. Increased refinery operations and tanker movements and a more competitive condition among marketers are also quite noticeable changes. I remember the advent of the steel rig into California development circles and, while a limited number of steel derricks had been used on the Pacific Coast for some time, it has only been during the past five or six years that this class of equipment has come into general usage. The advantage is obvious, of course, especially in developing fields of high pressure such as are encountered in California.

Big Day of Output Passed

Operators can not expect another series of fields in southern California comparable to those just mentioned, due to the fact that all the major uplifts have been drilled or eliminated. New fields and extensions in this locality can be anticipated from time to time, but geologists generally agree that the big day in southern California will have passed with the drilling up of Seal Beach and Potrero. All well-informed operators have recognized this for some time, and the action of the Union, Shell, Standard, General Petroleum, Associated and others in tying up potential acreage in Ventura and Santa Barbara Counties and in all sections of the San Joaquin Valley confirms the opinion of many that California's future production will come from these areas. The writer has on numerous occasions during the past several years called attention to the advisability of tying up all available prospective acreage in the San Joaquin Valley, and, while the time is not yet ripe for work in this area, operators should prepare for the eventuality which is bound to occur sooner or later.

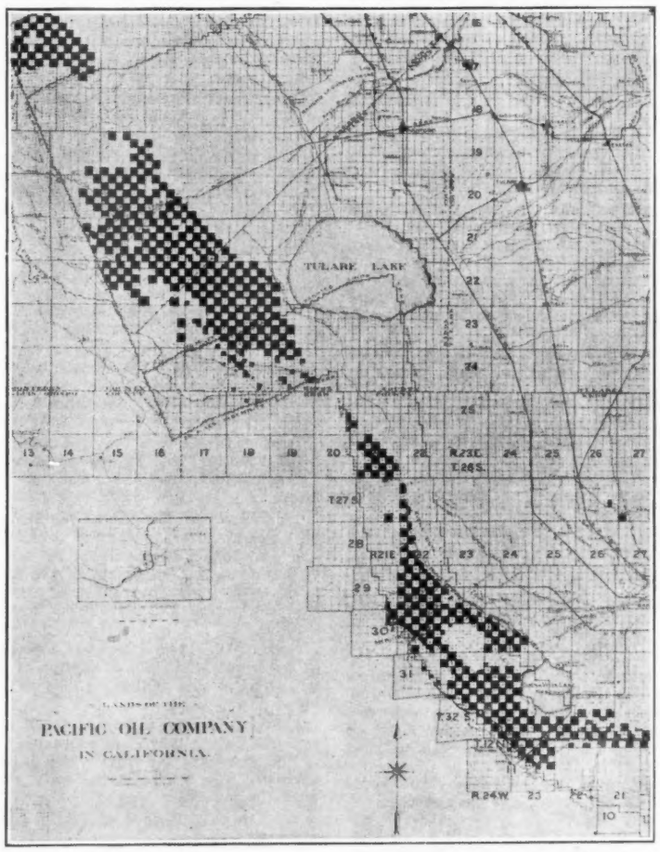
The Standard, through acquisition of the Pacific Oil Co. lands, aggregating 261,000 acres, is sitting on top of the world, for, in addition to the vast amount of proven reserve, the former also secured some mighty promising acreage which is checkerboarded from one end of the State to the other. The Shell has been right up on its toes and has been utilizing geophysical exploration methods in augmenting its geological work. This company has several hundred thousand acres tied up in addition to the Miller and Lux lands, upon which it has exclusive drilling privileges, which, if memory serves correctly, was worth approximately a million dollars. While it is generally agreed that most of California's future production is expected to come from that vast area generally known as the San Joaquin Valley, one must not neglect to take into consideration the potentialities of Ventura and Santa Barbara Counties, both of which have already yielded one or more prolific fields.

Ventura County is probably more generally known than Santa Barbara, due to present work in the prolific Ventura Avenue Field, where production is secured down to 6,800 feet and operators have not yet succeeded in drilling entirely through the productive horizon. South Mountain and several minor shallow fields also indicate that producers must not overlook this area in considering future possibilities. The recent discovery of a new high gravity oil field by E. J. Miley at Goleta in Santa Barbara County and the fact that the Union Oil Co. completed several real large gushers when devoloping its holdings in the Santa Maria area some years ago warrants the assumption that this section will be heard from again at a later date. The Union's No. 1 Hartnell at Santa Maria, incidentally, registered an initial daily production of 12,000 bbls. and produced about 3,000,000 bbls. of crude before it was put on the beam.

Marketing Conditions

Marketing conditions on the Pacific Coast probably reflect the tremendous increase in production and resulting growth and expansion to as large a degree as any other phase of the industry. The number of service stations, distributing depots and other facilities necessary for successful distribution has shown a very substantial increase during the past five years. A very interesting change has taken place in the marketing game, however, and, to the dismay of many refiners, this battle for gallonage isn't what it's cracked up to be.

In years gone by, retail markets on the Pacific Coast were practically controlled by the Standard, Union, Associated and Shell. The General Petroleum disposed of its refinery output to the Standard, while the Santa Fe Railroad's oil-burning locomotives afforded an outlet for the former's fuel oil or low-grade crude unsuited for refining purposes. The Union and Standard had coastwise distribution of gasoline and refined oils through their own service stations, but operations of the Shell and Associated were generally limited to that area in and around the San Francisco bay region, although both had a number of stations at strategic points in the San Joaquin Valley. The Shell, for instance, had its principal outside stamping ground in Fresno County, due to its large crude oil production in the Coalinga Field near by. The Associated was quite strong in Kern County, due to its affiliations with the Southern Pacific Railroad group and source of crude oil supply in the Kern River, Midway Sunset and other adjacent fields.



The checkerboard pattern shown above portrays lands formerly owned by Pacific Oil Co. that came to the Standard Oil Co. as a result of the merger. Each maximum-sized black square represents a square mile of company land. In all there are 261,000 acres, or slightly less than 408 sections, 20,000 acres of which are considered proven oil lands.

Conditions Reversed

Previous to the overproduction situation which started back in 1923, it was the custom of the major companies to market their own refinery products as far as possible through company owned service stations, although, of course, all refiners disposed of some gasoline and oils through independent stations. Conditions are now reversed and, instead of the reseller begging the major refiner for sufficient gasoline and refined products to meet his requirements, as I have seen happen on several occasions in the past when many independent dealers were cut off entirely and the gallonage of others restricted due to a limited supply, the major refiners are not now only pleading for business, but some openly offered 5 and 6-cent differentials as an inducement until the recent gasoline war, when this practice was discontinued.

Others have resorted to paint jobs, or the construction of service stations for sublease to independent dealers on a minimum yearly rental basis. Several independent stations in Los Angeles have had four and five free repaint jobs in less than 12 months due to the anxiety of refiners to build up gallonage. This acts as a wonderful preservative, and, while it usually results in a change from one brand of gasoline to another, depending on the latest painter, it hardly warrants the expense incurred on account of the vacillating policy of independent dealers and inroads made by bootleggers and unethical jobbers.

Due to the highly competitive conditions which have existed in the marketing game during the past few years, refiners have come to the conclusion that it is more profitable to market through resellers, and with this idea in mind several refiners have been experimenting along lines that might have eventually resulted in their gradual withdrawal from the retail service trade entirely.

There is a wide divergence of opinion on the Pacific Coast at present as to the advisability of catering to independent dealers exclusively, and while one or two relatively large companies were seriously considering disposing of practically all company owned service stations this policy has been partially given up. Past experiences indicate that it is not feasible or entirely possible to distribute exclusively through resellers, for in many instances this type of distribution reacts unfavorably, due to sloppy methods employed and carelessness on the part of resellers. There is no dodging the fact, however, that in many instances large refiners have been marketing at a loss. The high type of stations erected by the major companies and the courteous service rendered to customers has proved a rather costly proposition, and as competition increased the gasoline turnover per station has thus diminished in proportion.

Several of the major refiners have

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Committee D-2 Presents Its Report

Tentative Method for Sampling Petroleum. Reports on Penetration of Grease and on Domestic Oil

FRENCH LICK, Ind., June 25.—Committee D-2 on petroleum products and lubricants meeting here this week presented its report to the American Society for Testing Material, meeting here at the same time. The principal recommendations were a tentative method for sampling petroleum and petroleum products, and revision of tentative methods of test for penetration of greases, further results and investigation in the determination of free sulphur and corrosive sulphur compounds in gasoline, and revised tentative method of test for carbon residue of lubricants. Recommendation for the withdrawal of the standard method of test for specific gravity of lubricants was acted upon.

A complete list of the matters acted upon follows:

I. Proposed New Tentative Methods

Method of Test for Melting Point of Petrolatum.

Methods of Sampling Petroleum and Petroleum Products.

II. Recommended Revision of Tentative Methods

Method of Test for Penetration of Greases and Petrolatum (D 217-26T).

Method of Test for Detection of Free Sulphur and Corrosive Sulphur Compounds in Gasoline (D 130-22T).

Method of Test for Carbon Residue of Lubricants (D 189-24T).

III. Withdrawal of Tentative Method.

Method of Test for Melting Point of Petrolatum (D 127-24T).

IV. Advancement of Tentative Methods to Standard

Methods of Test for Analysis of Grease (D 128-26T), as revised.

Method of Test for Sulphur in Petroleum Oils Heavier than Illuminating Oil (D 129-22T).

Method of Test for Distillation of Gasoline, Naphtha, Kerosene, and similar Petroleum Products (D 86-26T).

Method of Test for Steam Emulsion of Lubricating Oils (D 157-23T), as revised.

Method of Test for Burning Quality of Kerosene Oils (D 187-24T).

Method of Test for Burning Quality of Long-Time Burning Oil for Railway Use (D 219-26T).

Method of Test for Burning Quality of Mineral Seal Oil (D 239-26T) as revised.

Method of Test for Distillation of Natural Gas Gasoline (D 216-25T).

Method of Test for Thermal Value of Fuel Oil (D 240-26T), as revised.

V. Recommended Amendment of Standard Method

Method of Test for Water in Petroleum Products and other Bituminous Materials (D 95-24).

VI. Withdrawal of Standard Method

Method of Test of Specific Gravity of Lubricants (D 47-24).

At the request of the American Oil Burner Association for assistance in the problem of developing adequate and reasonable specifications for domestic fuel oils, Committee D-2 prepared a report on the considerations involved, suggesting two general classes of oil for domestic oil and giving forms for use as purchase specifications.

Report on Penetration

The report of the subcommittee on petrolatum respecting tentative methods of test, which was acted upon, follows:

1. Tentative Method of Test for Penetration of Greases (D 217-26T)[1].—Acting upon the recommendation of Sub-Committee I on Petrolatum, endorsed by Committee D-2, that this method be applied also to the determination of the consistency of unworked samples of petrolatum, Sub-Committee IV on Grease has submitted the following revisions:

Title.—Change to read as follows by the addition of the black face words:

"Method of Test for Penetration of Greases **and Petrolatum.**"

Section 1.—Add the words "and of petrolatum (unworked)." at the end of this section.

Section 2.—Change from its present form: namely,

"The method should be applied only to greases which have not been melted after having been poured and cooled during manufacture."

To read as follows:

"The method shall not be applied to greases which have been melted after having been poured and cooled during manufacture. Petrolatum, however, should be melted, poured into a suitable container and cooled before testing."

Section 3.—In the seventh line, change "grease can" to "container."

Section 8.—Add a new sentence to read as follows:

"All samples of petrolatum shall be tested for original (unworked) consistency after melting and cooling to the temperature of test."

Section 9.—In the ninth line, change the word "grease" to read "grease or petrolatum."

In the twelfth line, change the word "grease" to read "grease or petrolatum."

In the thirteenth line, insert the word "petrolatum" after the word "grease."

Section 10.—In the first line, change the word "grease" to read "grease or petrolatum."

Section 12.—In the sixth line, change the word "grease" to read "grease or petrolatum," in both places where it appears.

Section 13.—In the sixth line, change the word "greases" to read "greases or petrolatums."

2. Tentative Method of Test for Detection of Free Sulphur and Corrosive Sulphur Compounds in Gasoline (D 130-22T)[2].—A slight revision is recommended as submitted by Sub-Committee XVII on Gasoline (T. G. Delbridge, chairman), as follows:

Section 4 (a)—Change the words "shows no" to read "not more than extremely slight."

3. Tentative Method of Test for Carbon Residue of Lubricants (D 189-24T).—A revision of this method in the form of a complete rewriting of the method is recommended, as submitted by Sub-Committee XXIII on Carbon Residue. The revision consists principally of a more detailed description of the apparatus and of the method of carrying out the test. See also the report of this subcommittee.

Withdrawal of Tentative Method

The committee recommends that the Tentative Method of Test for Melting Point of Petrolatum (D 127-24T)[3] be withdrawn, in accordance with the report of Sub-Committee I on Petrolatum, appended hereto.

Advancement of Tentative Methods to Standard

The committee recommends the submission of the following tentative methods to letter ballot of the Society for adoption as standard:

1. Tentative Method of Test for Analysis of Grease (D 128-26 T),[4] slightly modified in accordance with recommendations of Sub-Committee IV on Grease, as follows:

Section 16.—In the thirteenth line, change the word "separator" to read "beaker."

Figure 1.—Delete the comma between the words "potash" and "soap" in the line below the first "Alcoholic Sol'n= (D)."

Section 18.—Add a footnote referring to the figure "100" which appears at the end of this section to read as follows:

"A close approximation to the amount of glycerin present may be calculated and included in the analysis, by taking 11.0 per cent of the weight of the fatty acids from soaps, providing, of course, that the grease was made from neutral fats."

Section 19.—Add a footnote referring to the word "acid" which appears as the last word of this section, to read as follows:

"Multiplying the weight of fatty acid by 1.045 gives a very close approximation of the weight of fat from which it was derived. This factor varies very little with the molecular weight of the fat."

2. Tentative Method of Test for Sulphur in Petroleum Oils Heavier than Illuminating Oil (D 129-22T)[5].

3. Tentative Method of Test for Distillation of Gasoline, Naphtha, Kerosene, and Similar Petroleum Products (D 86-26T)[6].

4. Tentative Method of Test for Steam Emulsion of Lubricating Oils (D 157-23 T)[7], slightly modified in accordance with recommendations of Sub-Committee XI on Turbine Oils, as follows:

Section 2.—Chance to read as follows by the addition of the black face words and the omission of those in brackets:

"The [Modified Resistance to Emulsification Number (A. S. T. M. R. E.)] **Steam Emulsion Number (A. S. T. M.—S .E.)** is the number of [minutes] **seconds** required for an oil to separate when emulsified and separated under definitely prescribed conditions."

Figure 1.—Change the first phrase of the title to read "Apparatus for Steam Emulsion Test."

Section 11.—In the ninth line, insert the words, "at least" after the word "examined."

Section 13.—Change to read as follows by the addition of the black face words and the omission of those in brackets:

"Results shall be reported, [in minutes and half minutes] **to the nearest second,** of the time necessary for complete (20 cc.) oil separation. The time in [minutes and half minutes] **seconds** shall be reported as the [R. E. Number], **Steam Emulsion Number A. S. T. M. Method (S. E. No.——).** In cases where the required volume shall not have separated in 20 minutes, the oil shall be reported as having an [R. E. Number, A. S. T. M. Method, of 20 plus] **S. E. Number, A. S. T. M. Method of 1,200 plus.** If duplicate determinations vary by more than [one minute] **plus or minus 10 per cent,** a third test shall be made and the average of the three tests reported."

Change the last sentence in the Note to read as follows:

"The S. E. member is derived from the top layer."

Section 14.—Omit this section, reading as follows:

"With care and proper attention to details, duplicate determinations of the R. E. Number, A. S. T. M. Method, should not differ by more than 0.5."

5. Tentative Method of Test for Burning Quality of Kerosene Oils (D 187-24 T)[8].

6. Tentative Method of Test for Burning Quality of Long-Time Burning Oil for Railway Use (D 219-26T)[9].

7. Tentative Method of Test for Burning Quality of Mineral Colza Oil (D 239-26T)[9]. A modification in the title is recommended, as submitted by Sub-Committee XIX on Illuminating Oils (J. B. Rather, chairman), as follows:

Title.—Change to read "Mineral Seal Oil" instead of "Mineral Colza Oil."

8. Tentative Method of Test for Distillation of Natural Gas Gasoline (D 216-25T)[10].

9. Tentative Method of Test for Thermal Value of Fuel Oil (D 240-

Technical Division of A. P. I. Recommended; Present Need Urged

NEW YORK, June 27.—The Technical Committee of the American Petroleum Institute, following the meeting held at French Lick Springs, Ind., last week, submitted a report recommending to the directors that technical activities of the oil industry be co-ordinated and concentrated in that association without necessarily affecting the activities of other technical societies. The investigation made by the committee showed, according to the report, that in certain cases the work of technical societies dealing exclusively or in part with petroleum matters should be continued and encouraged but that the great need was for a co-ordination and direction of technical work which could best be accomplished through the Institute.

It is proposed to form technical divisions such as the following: Geology, Production Engineering, Refining Engineering, Transportation Engineering and Marketing Engineering, it being recommended that immediate steps be taken to form the Production Engineering and Refining Engineering divisions, of which it is stated there is particular need.

[1]Proceedings, Am. Soc. Testing Mats., Vol. 26, Part I, p. 834 (1926); also 1926 Book of A. S. T. M. Tentative Standards, p. 416.

[2]Proceedings, Am. Soc. Testing Mats., Vol. 22, Part I, p. 780 (1922); also 1926 Book of A. S. T. M. Tentative Standards, p. 456.

[3]Proceedings, Am. Soc. Testing Mats., Vol. 24, Part I, p. 872 (1924); also 1926 Book of A. S. T. M. Tentative Standards, p. 405.

[4]Procedings, Am. Soc. Testing Mats., Vol. 26, Part I, p. 825 (1926); also 1926 Book of A. S. T. M. Tentative Standards, p. 407.

[5]Proceedings, Am. Soc. Testing Mats., Vol. 22, Part I, p. 777 (1922); also 1926 Book of A. S. T. M. Tentative Standards, p. 453.

[6]Proceedings, Am. Soc. Testing Mats., Vol. 26, Part I, p. 816 (1926); also 1926 Book of A. S. T. M. Tentative Standards, p. 388.

[7]Proceedings, Am. Soc. Testing Mats., Vol. 23, Part I, p. 685 (1923); also 1926 Book of A. S. T. M. Tentative Standards, p. 460.

[8]Proceedings, Am. Soc. Testing Mats., Vol. 24, Part I, p. 858 (1924); also 1926 Book of A. S. T. M. Tentative Standards, p. 435.

[9]Proceedings, Am. Soc. Testing Mats., Vol. 26, Part I, pp. 840-844 (1926); also 1926 Book of A. S. T. M. Tentative Standards, pp. 441-445.

[10]Proceedings, Am. Soc. Testing Mats., Vol. 25, Part I, p. 693 (1925); also 1926 Book of A. S. T. M. Tentative Standards, p. 397.

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Mexican Situation Nearing Crisis

Drop in Production and Government Revenue May Affect Attitude. Experience of Transcontinental Typical

By L. M. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

The Mexican oil production situation is fast approaching a critical stage. Companies which have refused to conform with the petroleum law which became effective the first of the year, and whose operations have been affected by the non-issuance or cancellation of drilling permits, are expecting a material drop in production for the balance of the year unless some early changes in the situation develop. Something like complete cessation of new work on properties acquired before the Mexican Constitution of 1917, which properties produce the bulk of Mexico's present oil output, is also possible.

Developments which would cause a resumption of operations are, first, a change in attitude on the part of the Mexican Government and the granting of drilling permits on preconstitutional properties; second, decision of the Mexican Supreme Court upholding the amparos asked by the companies restraining the Government from putting the petroleum law into effect.

Up to the present time there has been no indication that the Mexican Government will recede from its position. There are no negotiations going on between the Government and the oil companies toward a settlement of the controversy outside of the courts. Nevertheless, the gradual decline in production and the indications of a more serious drop in the near future is affecting the Government's principal revenue, and may result in some action on the part of officials, the nature of which has not yet been indicated.

Government Revenue Cut

It is probable that the Government's revenues from oil production and export taxes will be cut nearly in half this year compared with 1926. This is indicated from the trend of production this year. Some estimates place the probable production at under 50,000,000 bbls., compared with 90,000,000 in 1926.

Last year the revenues derived from these sources amounted to about $17,300,000, which compared with $21,000,000 in 1925, $27,500,000 in 1924, $30,500,000 in 1923 and $43,000,000 in 1922.

The highest estimate ventured for Mexican production this year is 75,000,000 bbls., but if production should continue for the balance of the year at the rate of the first four months' figures, it would total only 68,000,000 bbls.

Final court decision favorable to the oil companies might result in a general resumption of operations that would materially increase production, but, on the other hand, a decision unfavorable to the companies might mean a practically complete stoppage of the petroleum business in Mexico.

The situation of the Transcontinental Oil Co. is fairly typical of all the major oil companies doing business in Mexico. These have refused to comply with the petroleum law as applies to preconstitutionally acquired properties, declining to give up their valid titles for "precarious concessions of limited duration."

Suit was brought and is now in the Supreme Court for final decision. The company continues to produce and ship oil from its old lands acquired from private owners. Applications made during the present year for drilling permits on such lands have not been acted upon and operations have been greatly curtailed. The company states that practically all of the present drilling is under permits applied for during 1926, and a complete cessation seems probable on or before July 1 unless the Government liberalizes its policy.

Risk in New Tests

As to properties purchased since the adoption of the present constitution, no questions of international law are involved, as in the attempts to confiscate preconstitutional properties. Under the requirements of the petroleum law, the Transcontinental has applied for concessions to explore and exploit new lands and may in due time receive them and be able to continue operations in Mexico.

In the meantime, the company has not started drilling on lands acquired since the new constitution went into effect. It is interesting to note that lands on which concessions have been asked lie outside the proven fields and are remote from existing transportation facilities. In order to encourage exploration and exploitation of such lands, tax discounts have been granted which vary from 15 to 50 per cent of the current production taxes. In addition there would be royalties and rentals in substantial amounts.

It is evident that such government concessions for the exploration and exploitation of nationalized lands are not as encouraging as they should be for the large investments required and the considerable hazards involved in their development. Under the circumstances it is doubtful whether the companies applying for such concessions would rush into large expenditures, particularly when it is considered that they have had considerable difficulties from political sources in Mexico since the beginning of the country's oil development and that they would be going out into new unproven territory.

Even the liberal granting of concessions in new territory and the inauguration of large-scale drilling campaigns would not assure any immediate increase in Mexico's oil production. Another factor, of course, is the present overproduction situation in the United States.

Production Short Lived

Reliance on any real holding up of Mexican production must come from the proven fields where also the element of varying production is very strong. Experience has shown that producing wells are apt to be large but short lived, and the results of drilling more than usually uncertain. This is illustrated by the fact that during 1926 there were 818 wells drilled in all of Mexico and of these 298, or less than 40 per cent, were commercial producers.

The Transcontinental drilled 80 wells and 60 of them were dry holes; that is, only one producing well was secured out of every four holes drilled during 1926. The 20 producing wells had an aggregate initial production of 47,435 bbls. and produced a total of 697,000 bbls. during the year. On January 1, 1927, the aggregate daily production of these same wells was only 2,340 bbls.

Transcontinental's present production is about 10,000 bbls. a day. This compares with 13,500 bbls. early in March. Last year it was producing over 50,000 bbls. a day.

The Mexican Government's official figures giving production of oil in Mexico the first four months of this year follow:

MEXICO'S OIL PRODUCTION

	Bbls.
January	6,087,726
February	5,441,083
March	5,720,654
April	5,538,685

Imports of Mexican crude oil into the United States during the first four months of this year have fallen off by half compared with the corresponding period of 1926. The figures from the United States Bureau of Foreign and Domestic Commerce follow:

CRUDE OIL IMPORTS FROM MEXICO

	1 27 Bbls.	1 26 Bbls.
January	2,040,000	3,497,000
February	1,771,000	2,883,000
March	1,651,000	5,362,000
April	1,947,000	4,405,000
Total	7,409,000	16,147,000
Daily average	60,000	134,500

It can be seen from the above that Mexico is gradually fading out of the picture so far as it affects the markets in this country. From its position of outstanding importance a few years ago it now ranks with a minor pool in this country.

Offsetting Mexico's decline is, of course, Venezuela and Colombia and, to some extent, Peru. Affecting production in these countries and shipments of oil from them into the United States is the overproduction here, and there is a gradual decline in imports noted. All imports of crude oil and refined products averaged 175,200 bbls. daily in April, compared with 250,700 bbls. in April, 1926. The trend of imports is shown in the following table:

IMPORTS OF CRUDE OIL AND REFINED PRODUCTS

	January Bbls.	February Bbls.	March Bbls.	April Bbls.
Crude oil:				
From Mexico	2,040,000	1,771,000	1,651,000	1,947,000
Dutch West Indies	763,000	947,000	1,017,000	445,000
Venezuela	557,000	805,000	460,000	610,000
Colombia	839,000	585,000	856,000	551,000
Peru	213,000	.....	421,000	338,000
Other countries	102,000	73,000	29,000	172,000
Total	4,514,000	4,181,000	4,434,000	4,063,000
Daily average	145,600	149,300	143,000	135,400
Refined oils:				
Total	1,267,000	1,502,000	1,173,000	1,195,000
Daily average	40,900	53,700	37,900	39,800
Total imports	5,781,000	5,683,000	5,607,000	5,258,000
Daily average	186,500	203,000	180,900	175,200
Daily average 1926	191,500	205,100	281,800	250,700

ATLANTIC COAST REFINERS USING MORE SOUTH AMERICAN CRUDE OIL

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 25.—Atlantic Seaboard oil refineries are gradually turning more and more toward foreign crude petroleum. Factors bearing on this include the cheapness with which oil can be produced in many foreign fields, the cheapness of ocean transportation of crude oil, and the increasing demand for heavy products of crude, including furnace oil, fuel oil and asphalt.

Nearly 60,000 bbls. a day of foreign crude oil, it is estimated, were run in Atlantic Coast plants this year up to June 22. This figure does not tally with total imports, in as much as considerable foreign fuel oil is imported and sold direct without treating, to say nothing of some kerosene and gasoline. The daily average imports during the period amounted to about 120,000 bbls. a day.

Plans now in process of being carried out indicate a further increase in imports of foreign crude oil to be refined in Atlantic Coast plants, estimated at from 15,000 to 30,000 bbls. a day, depending upon market conditions. This gain should take place in three or four months. The plans include development of transportation facilities to move the production of the Trinidad Oil Co. in Trinidad to seaboard, where it will be carried in tankers to the Beacon Oil Refinery at Boston; the completion of the doubling of the pipe line of the International Petroleum Co., Ltd., in Colombia, allowing a greater outlet for Colombian crude oil, and the construction by the Gulf Refining Co. at Philadelphia of a second Atlantic Coast refinery to be operated on Venezuelan crude.

There are only two refineries on the Atlantic Coast now operating almost entirely on foreign crude oil. One is the Bayonne refinery of the Gulf Refning Co. with rated capacity of 20,000 bbls. daily, and the Charleston, S. C., refinery of the Standard Oil Co. of New Jersey, rated at 10,000 bbls. a day. Both refineries were built with the purpose in view of using foreign oil. The Gulf is a skimming plant, while the New Jersey plant turns out mainly fuel oil and asphalt, but includes also a cracking installation.

South America Gaining

It was not many years ago that practically the only crude oil imported on the Atlantic Coast came from Mexico. Refiners here at the peak of prosperity of the Mexican oil industry imported at as a high a rate as 200,000 bbls. a day. Now the contribution of Mexico has dwindled to well below 100,000 bbls. a day. Meanwhile imports from South America have steadily increased, almost equalling those from Mexico.

The import statistics show that Venezuela, Colombia and Peru are now sending crude oil to Atlantic Coast refineries. Trinidad is also contributing. Although Trinidad is not strictly part of South America, being an island only a comparatively short distance from the Latin-American continent, the writer includes Trinidad with South America because of its general geographical position and as a matter of convenience.

Of the estimated amount of foreign crude oil imported on the Atlantic Seaboard in 1927 up to June 22, (not including imports of other than crude), Venezuela made the largest contribution. Daily average imports from that country are estimated at 22,600 bbls. a day. The daily average contribution of the various foreign countries during 1927 up to June 22, is as follows; (in barrels):

Venezuela	22,600
Colombia	19,500
Mexico	12,100
Peru	4,000

It is interesting to note that Mexico comes third on the list, being surpassed both by Venezuela and Colombia.

The lead held by Venezuela is due principally to the development by the Gulf Oil Corp. of a substantial production in Venezuela, and the subsequent construction at Bayonne of a refinery to operate on part of this production. The table below indicates that the company accounted for imports of more than 15,000 bbls. a day of Venezuelan oil, out of the total of 22,600 bbls. imported by all companies.

The Standard Oil Co. of New Jersey leads in total imports, accounting almost entirely for those from Colombia, Peru and Mexico. (Incidentally, the Pan American Petroleum & Transport Co. is the largest importer of Mexican oil to the Atlantic Seaboard, but this consists almost entirely of fuel oil, for direct sale

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Problems in Estimating Gas Reserves

Economic and Engineering Factors Most Important. Companies Concerned With Constancy of Their Supply

By R. R. Brandenthaler
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The correct estimation of natural gas reserves is one of the most difficult problems confronting the petroleum and gas engineer. However, a review of the literature indicates a lack of information on the subject. Estimates of potential natural dry gas reserves in certain fields have been made from time to time, but apparently no information pertaining to casinghead gas reserves has ever been published. A brief summary of some of the economic and engineering problems which must be considered in determining the value of a gas reserve is set forth in this paper.

Economic Problems

Natural gas systems vary in size from those serving only one community or industrial plant to those which may serve hundreds of communities and industrial plants. When investigating a new source of supply, the size of the system and the possibilities for maintaining and increasing its market must be considered. For example, a distribution company which served only domestic consumers and which had no industrial market available during the summer months, would be unwise to obligate itself to take a constant daily quantity of either dry or residue gas throughout the year.

Many of the larger companies, with their diversified markets, are chiefly concerned with the constancy of a source of supply. This does not imply however, that they neglect their market. Witness their endeavor to fill in the "valley," in their marketing curve, caused by the decreased domestic demand during the summer months.

Gas companies endeavor to, and usually do, meet the domestic consumers' peak load conditions which occur during the winter months, regardless of the depth of the "valleys." The falling off in domestic demand during the summer months is usually taken care of in part at least, by catering to industrial business. This type of business necessitates lower selling rates for gas in order to compete with other fuels, to justify added equipment necessary to utilize gas as fuel, and also because the gas is available only during the summer months and possibly at odd times during the remainder of the year.

Types of Natural Gas Supply

It is common knowledge that there are two sources of natural gas, dry gas which is produced from formations containing only gas, and casinghead or residue gas which is contained in an oil formation and is produced with the crude oil. The importance of each type of gas varies in different parts of the country. In the east and east central states very little if any casinghead gas is available for public consumption. On the west coast only a small percentage of the total gas marketed consists of dry gas. In the Mid-Continent area, possibly 70 per cent of the gas marketed is dry gas, the remainder being casinghead gas. Other localities, for example Wyoming, have both kinds available, but the market is very limited. Where either type of gas predominates, the lesser supply can usually be absorbed in the system, and during the periods when the demand is low, as for example during the summer months, dry gas production can be curtailed in order to utilize as much casinghead gas as possible.

From a conservation as well as economic standpoint, dry gas is recognized as being the more ideal type of natural gas for marketing. When dry gas is not needed, production can be curtailed by simply closing in the gas wells. Unfortunately, because of certain economic factors, this plan cannot always be carried out to the desired degree. Some producing companies may sanction the closing in of their gas wells during the summer months, others cannot afford to or are not willing to do so. Competition among marketing companies drawing from the same field may also prevent the closing in of gas wells. Nevertheless the rate of production of dry gas can be curtailed to a large extent, and this flexibility in rate of production makes it a more desirable source of supply.

Where casinghead gas predominates as a source of supply, the same degree of flexibility cannot be attained, because casinghead gas is generally considered a byproduct obtained in the production of oil; hence it must be utilized when produced.

Oil can be stored in tanks near the producing wells without entailing much waste, until economic conditions warrant the necessary expenditure for an oil pipe line from the field. However, in the meantime, most of the gas produced with the oil may have been wasted. It is evident therefore that detailed information as to conditions, at least as much as in the case of an oil pipe line, would ne necessary to justify the laying of a gas line. Having in mind primarily the smaller companies, it is suggested that a market for the gas be first assured. A study of the market conditions should take into consideration seasonal requirements. Before making any expenditures for equipment, a detailed study should be made of the available gas during the economic life of the supply. Changing conditions may require an additional supply and this possibility should also be considered. The nature of the gas supply determines the type of investigation necessary. If the reserve consists of dry gas, the following engineering investigation is recommended.

Dry Gas Reserves

A comprehensive survey of underground conditions in the field should be made. The structure to be investigated may be similar to another near by from which dry gas has been produced for some time, formations may be of the same general type, also, the same number of producing horizons may be present in the field being studied. It is always good policy to "look over the ground," gathering as much information as possible on the surrounding country. Incidentally, other potential reserves may be brought to the attention of the investigator. It may be possible that oil was encountered in a near-by field below the gas horizon, and the fields being similar with respect to producing horizons, oil may be present in the field which is being investigated. If such a condition exists, the possibility of obtaining the maximum ultimate economic gas recovery has been lessened considerably because of the waste of gas from the gas sand which usually results from drilling through a gas sand to lower oil-producing horizons.

Formation Important

The thickness of the producing formation or formations is of importance; also the type of formation, for obviously a coarse, porous sand will permit a larger daily production, whereas a tight fine-grained sand will give up the gas at a slower rate. Cross sections showing underground formations should be made and from these a contour map representing the top of the producing sand may be constructed.

The possible occurrence of water either underlying the gas sand or occurring as edgewater in the gas sand is important. If an underlying water is present, the chances for water entering the sand due to some wells being drilled too deep often results in premature water flooding of the field, and a drowning out of wells often most favorably located on the structure. Edgewater is generally present and its location should be ascertained if possible because its boundaries determine the productive limits of the field and it also affects the productivity of properties located down the structure.

Drilling methods in use by the various operators in the field should be noted. It is a known fact that if every operator but one in a field is taking every possible precaution, such as, producing from only one sand in a well, using first class casing, using sufficient cement back of the casing, and producing the wells at the most efficient rate, their good work can be counteracted by the harmful practices resorted to by the remaining operator. When a well produces from more than one sand at a time, water hazards are greatly increased.

A study of rock pressures is of primary importance, not only from a standpoint of ultimate recovery but also because it indicates the present and future need of compressor equipment. As long as the rock pressure is greater than the intake pressure desired for the main transmission line leading from the field, compressors are not needed. Eventually the rock pressure declines to the point where compression plants are necessary.

Rate of Production

Many states have laws governing the rate of production from gas wells, but these laws necessarily deal with a majority of all operations. Often it would be well to produce at a slower rate than that prescribed by state regulations. Competition by competing gas companies here enters into the problem, hence when investigating a new source of supply, it is essential that due recognition be given to the competition factor. This difficulty can be eliminated or reduced by agreement between the competing companies.

The potential maximum output of a well, generally defined as the open flow volume, should be ascertained because the rate of delivery of any well is usually based on a certain percentage of the potential maximum output of the well, this percentage usually being prescribed by state regulations.

Cognizance should be taken of the well spacing adopted in the field, or which may be adopted later. The latter can often be determined by the acreage controlled by each of the producing companies, and also by the depths to the producing sands, shallow sands being often subjected to closer spacing because of relatively lower drilling costs.

Close spacing of wells generally results in higher peak production and a consequently more rapid decline. Keen competition often causes closer well spacing and generally shortens the economic life of the field. This usually, but not always, causes a decreased total ultimate recovery. Too close spacing of wells increases the possibility of premature water difficulties because each additional well increases the chances for water to gain entry to the gas sand.

The possibility for obtaining deeper production should not be overlooked, because it may be a decided factor in determining the feasibility of the project. It is usually more or less of an unknown quantity but there are times when a certain assurance may be attached to the occurrence of gas in a lower sand. This is one of the risks which must be taken into account before considering a new source of supply, and the degree of risk

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WORLD AUTOMOBILE REGISTRATION TOTALS 27,650,267 MOTOR CARS

The total number of motor vehicles—passenger cars, buses and trucks—registered throughout the world on January 1, 1927, was 27,650,267, according to figures just compiled by H. O. Smith, chief of the automotive division of the Bureau of Foreign and Domestic Commerce. This compares with 24,589,249 on January 1, 1926, an increase of 3,061,018 cars.

The United States, with 22,137,334 cars, represents 80 per cent of the total world registration, and the gain in this country alone last year was 2,183,000 cars.

In view of the impetus to automobile use in many countries outside of the United States, this being reflected in the increased demand for gasoline, particularly in Europe, the figures for foreign commerce do not reveal as striking an increase as might have been expected. This is probably explained by replacements. In most foreign countries cars are not driven as much as in the United States, and because of the financial conditions automobile owners have kept their automobiles over a long period. However, the easing up of conditions and the stimulation of new sales, has resulted in abnormal replacements in the past two years.

The annual increase in registration for the United States and for the balance of the world is shown in the following table:

REGISTRATION OF MOTOR VEHICLES

	United States	Increase United States	Remainder of world	Increase remainder of world
January 1, 1927	22,137,000	2,183,000	5,513,000	878,000
January 1, 1926	19,954,000	2,360,000	4,635,000	944,000
January 1, 1925	17,594,000	2,502,000	3,691,000	860,000
January 1, 1924	15,092,000	2,854,000	2,831,000	562,000

The world census of motor vehicles follows:

WORLD CENSUS OF MOTOR VEHICLES ON JANUARY 1, 1927

Compiled by Automotive Division—H. O. Smith, Chief

(Based on government statistics or other best available information as secured, in large part, from official sources by foreign representatives of the State and Commerce Departments. See notes at bottom of table.)

TOTAL WORLD REGISTRATION, JANUARY 1, 1926, AND 1927

	Passenger Cars	Buses	Trucks	Total Automobiles	Motorcycles
1926	20,837,146	172,617	3,463,856	24,589,249	1,435,147
1927	23,518,928	194,374	3,936,965	27,650,267	1,726,241

(Continued on Page 84)

Output of Helium Fast Diminishing

All Natural Gas Now Being Treated Comes From Petrolia Field in Texas and Production There Is Slipping

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

The development of the helium industry by the United States Government has taken place during the past nine years. Prior to June 30, 1922, only about 2,000,000 cubic feet of helium gas was produced in this country, which is equivalent to saying, in the world.

From June 30, 1922, to June 30, 1923, production of helium was over 4,000,000 cubic feet. The highest production reached was nearly 9,500,000 cubic feet for the fiscal year ending June 30, 1925, after which time the exhaustion of the Petrolia Field in Texas resulted in a constantly diminishing supply of helium-bearing gas at the extraction plant at Fort Worth, Tex.

The production of helium has been as follows:

	cu. ft.
Fiscal year ending June 30, 1923	4,070,000
Fiscal year ending June 30, 1924	8,205,000
Fiscal year ending June 30, 1925	9,418,000
Fiscal year ending June 30, 1926	9,355,000

The monthly production of helium for the present fiscal year has been as follows:

Month—	cu. ft.
July, 1926	647,564
August	456,536
September	537,862
October	433,376
November	406,394
December	502,678
January, 1927	520,828
February	442,854
March	540,064

Peak in June, 1925

The highest monthly production of helium that has yet been obtained was in the month of June, 1925, when the quantity was 1,228,000 feet. This high production for a single month nearly two years ago indicates the enormous and rapid decline in the Petrolia Field.

The helium on hand at this time amounts to about 5,000,000 cubic feet. This helium is in the possession of the army and navy. There is no reserve in either of these branches of the service because of the small supply being received from the helium plant. All of the helium, practically, is in the envelopes of the airships, with only a trifle in storage. The "Los Angeles" is now inflated with helium to the extent of 2,250,000 cubic feet and about the same amount is in service in airships of the army. The RS-1 (army) contains 750,000 cubic feet of helium. This airship is held at Scott Field, at Bellville, Ill., just across the Mississippi River opposite St. Louis, Mo.

At the present time all of the natural gas being treated at Fort Worth comes from the Petrolia Field. The extraction plant is treating about 2,000,000 cubic feet of natural gas per day and the production of helium at the present time is down to a rate of about 5,500,000 cubic feet annually.

Other helium-bearing gas available for extraction at Fort Worth is found in the Nocona Field, about 100 miles from Fort Worth, but about 23 miles from a possible junction point with the present government pipe line that extends from the Petrolia Field to the Fort Worth plant. The Nocona Field could supply, at full capacity of the government pipe line, 9,000,000 cubic feet of natural gas per day and would enable the helium plant to produce about 2,000,000 cubic feet of helium per month.

Government Plans Pipe Line

The Petrolia Field was originally estimated to contain about 135,000,000,000 cubic feet of natural gas, or approximately 1,350,000,000 feet of helium content of gas, or about 1 per cent. However, because of current use of the gas and waste in the field incident to oil operations, only a small part of the original gas content has been made available to the helium plant for helium extraction.

The Government has made arrangements for a right of way for a pipe line 23 miles in length to connect the Nocona Field with the existing Petrolia-Fort Worth pipe line. It has obtained leases to permit it to extract the helium from the gas of the Nocona Field and has opened bids for the construction of the necessary branch pipe line. The estimated cost of this pipe line is about $260,000 and the pressure station and other accessories incident to the pipe line would bring the total cost of this project to about $500,000. The Government has not yet awarded a contract for the branch pipe line but negotiations to that end are now under way. Other helium-bearing gas fields in Texas are under consideration by the Government for increasing the helium supply.

It is well known that when helium is used in airships it becomes contaminated with air through double diffusion of helium out of the container and air into it. Air is heavier and, therefore, when it contaminates the helium gas there is a lowering of bouyancy. In order to take care of this situation, a repurification plant to keep the helium in a pure state was constructed by the Bureau of Mines for the navy at Lakehurst, N. J. This was done in 1924. In 1926, the bureau completed a mobile purification plant, mounted on railroad cars, for the War Department, the operations of the air service of the War Department making it necessary to have a facility of this kind. This mobile plant is now in operation at Scott Field, Illinois.

Purification Plants

The purification plants remove the air from the helium and restore it to about 97 or 98 per cent purity at a cost of from $1 to $3 per 1,000 feet, the cost depending upon the amount of gas handled, as in all of the handling of helium, the larger the quantity the smaller the cost. In this process the entire operation is based on the liquefaction of gas, all constituents of the product, except helium, becoming liquefied, which permits the helium to be drawn off in a pure state.

At Fort Worth the Government pays a regular commercial rate for the natural gas it uses in the process as the gas passes through the plant. After treatment, the residue of the natural gas is returned to the gas company's mains and the Government pays for the difference between the incoming and outgoing gas at the regular commercial rate. The gas used amounts to about 25 per cent. Some of this is lost in the process, but the larger part is used for power purposes. The loss in extraction is about 3 per cent of the natural gas and the power house requirements for fuel is about 22 per cent.

Since this process was inaugurated a constantly decreasing cost of producing helium has been effected, and the lessening amount of gas available for treatment has now reversed the situation. On a production of 1,000,000 feet a month the cost was reduced to less than 3 cents a foot. At the present time, however, with a production of only 400,000 or 500,000 feet of helium per month, the cost has increased to 4.7 cents a foot, or $47 per 1,000 feet. During the month of January of this year, with a production of about 521,000 feet of helium, and in February, with a production of 443,000 feet, the cost was $43.50 and $47.92 per 1,000 feet respectively.

The Bureau of Mines is actively interested in the search for helium, which is generally found in the Pennsylvania sediments and not often in the tertiary formations.

Commercial Utilization

It is really too early in the development of this industry for reliable estimates of the value of helium to the owners of natural gas fields. At this time the demand for helium is practically confined to government consumption for naval and military purposes. The industry has never passed to a commercial basis, and the commercial uses for which helium may be adapted are still problematical. Such uses as for deep sea diving, for cassion work in mining, and for experimental purposes, in the manufacture, for instance, of certain radio apparatus, attractive experimental work is possible but utilization of helium, other than for aviation, has not passed to a stage of development that calls for any considerable supply of this element.

There has been much discussion respecting the use of lighter-than-air-ships for the carriage of passengers, mail and light freight, but no private capital has yet been enlisted to put such plans into effect. It seems quite certain that, if lighter-than-air-ships are to be utilized in this country, helium gas may be exclusively used for inflation puruoses. Probably there will be no aggressive action for commercial production of helium gas on a large scale until a more or less fixed demand for its use has been established. There is at least one effort of this kind under way and it has had considerable encouragement from some of the people interested in the supply of helium gas required for the Navy Department.

While the government operations are being planned on a large scale, and while the Government itself is said to control the best of the helium-bearing natural gas for extraction purposes, there are some people who feel confident that eventually this industry must be taken up up on a commercial basis.

The work of the Government has been of vast assistance in developing processes for the cheapening of helium gas and that work is still in progress. Under the direction of R. A. Cattell, who is the engineer in charge of helium production for the Bureau of Mines, there is going forward a constant study of the problems of helium production, and many scientists under him are giving their attention to this subject. At the time it is not considered practicable to treat natural gas containing less than 1 per cent of helium. Judged by advances made in other lines of research, some people believe that there cannot fail to be improvements that will not only lower the present cost by refinements of treatment but will make it possible to show a profit by treating natural gas with a considerably lower helium content. In other words, the helium industry is in a state of development. It has made wonderful strides since the day when, to obtain a single cubic foot of helium, involved laboratory expense of a couple of thousand dollars, and there is no reason to believe that perfection of the process has yet been reached.

FIRST INTENSIVE INTEREST IN HELIUM WHEN U. S. ENTERED WAR

By Charles E. Kern

Although helium gas was discovered in natural gas in Kansas by Cady and McFarland in 1905, and its lightness and noninflammable characteristics were known and its possible usefulness in lighter-than-air ships was realized before that, it was not until the United States entered the World War, in 1917, that any intensive interest was manifested in helium, and not until 1920 that any general legislation was passed by Congress looking to the control and development of this unique gas.

When the United States entered the World War attention was called to the desirability of using helium gas to promote safety in navigation by airships. The Bureau of Mines was at once set to work to solve the problem involved in the work of obtaining a necessary supply.

It is understood that the first suggestion that helium gas should be used for airships for war purposes was made by people in England who had their attention focused upon this instrument of warfare largely by the activities of Germany in sailing airships over France and England and dropping explosive bombs. How to meet that instrument of warfare by a similar instrument with superior qualities became a live issue among the Allies. The suggestion received here was carried by the Bureau of Mines to the War and Navy Departments.

Experiments Begun

There was, at that time, a large degree of discretion permitted in the use of public funds for war purposes and it was possible to obtain prompt action on any suggestion that promised to strengthen the military prowess of our army and to add an auxiliary for naval warfare. The Army and Navy fixed upon the United States Bureau of Mines as the best medium for attaining their purposes and both of these departments transferred money from their general appropriations to the bureau for experimental work with reference to the development of a helium supply.

Three experimental plants were started using three different processes. The Linde process proved to be the most satisfactory in this experimental stage and it was selected as the process to be used in the construction of the Government helium extraction plant at Fort Worth, Tex. Upon the selection of the Linde method, the small experimental plant, which had been under the direction of the Bureau of Mines, was dismantled and the Fort Worth plant was completed and operated under the jurisdiction of the Navy Department, the bureau cooperating in research work for the further perfection of methods looking to greater efficiency of operation and lowering costs involved.

First Legislation

Up to this time everything had been done as war measures which had not required any special legislation. The appropriation of funds for the Army and Navy and such legislation as related to helium in the Land Lease Act of February 25, 1920, was the first recognition by Congress that any such program was in course of operation. Under this general leasing act the Government reserved the right to extract helium from natural gas produced on public lands.

For a period of several years the operation of the Fort Worth helium extraction plant was carried on by funds of

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Open Covenants Openly Arrived At

Earl Oliver Declares This the Paramount Need if the Oil Industry Is to Hold Public Confidence

By Earl Oliver

What part, if any, does the public play in the affairs of the petroleum industry? In answer to this question, it might be stated that among other things, it buys the products, it pays the bills, it finances the new operations, it levies the taxes—and collects them, it passes the laws, it executes them.

It tells Mr. Russell whether or not there shall be a "severance" tax in Oklahoma. It tells the governor, the Legislature, and the Corporation Commission of Oklahoma whether state inspectors or men employed by the nominal owners of the wells, shall determine the details of their operation. It tells the Governor of Texas whether and what new petroleum legislation shall be passed in that State.

It tells the President of the United States and Congress the degree of co-operation that may be permitted between the several large units of the petroleum industry in the effort to bring about stabilization, and what shall be the foreign policy in questions that may arise in connection with American oil investments in Mexico and South America, in Europe, Asia, Africa and the islands of the seas. In fact, there is no question either closely or remotely connected with oil in which the public in the final analysis is not the party that turns thumbs up or thumbs down.

The American system of selecting public officials with its frequently recurring elections was designed to cause the official attitude to reflect the public attitude. We find in practice that it does so, not in detail but in principle. When public sentiment is sympathetic, official attitude is friendly; when the public is suspicious officials are helpless, however constructively helpful they might wish to be. It would appear, therefore, an understanding friendly public attitude is important to the petroleum industry, and worthy of cultivation.

On the other hand, the public is dependent upon the petroleum industry to a greater degree than it depends upon any other single industry, except agriculture. With this mutual interdependence, there is every reason there should exist between the two groups complete understanding and fullest sympathy. This does not exist. And it must be conceded, the oil industry is more responsible for that situation than is the public. It has not given to the public that knowledge of their common affairs so necessary to the development of mutual confidence.

The industry has now come to a crisis in its history. Improved methods of finding oil, of extracting, and of refining it, all combine to make obsolete certain competitive drainage practices long familiar to the industry. Both private and public interests demand its elimination. It no longer has an apologist in any quarter. All parties are in agreement that it must go. Every student of the industry knows that in some manner it will go. But the big question, the crisis referred to, concerns the manner of its going.

The converse of competition is co-operation. Both Government and industry are in agreement that because of the peculiar nature of petroleum deposits, competitive drainage practices must cease and co-operative drainage practices be substituted therefor. But this necessary co-operation gives to the industry an opportunity to take advantage of the public that the latter will be loathe to grant unless the reasons and advantages arising out of it are made very clear.

Quite recently the press of the country gave much space to the fact that four influential gentlemen made a trip to Washington in an attempt to find means of bringing about stabilization in the petroleum industry—a condition equally to be desired by the public as by the industry. No one who knows certain of those gentlemen can doubt the constructive intent of their mission, but the industry and the public were both disposed to regard the effort as having no significance other than to stabilize price. If press reports are to be depended upon, the sum total of assurance that the "powers that be" in that city gave to them, and to the industry, was the injunction that the Federal Government could interest itself only in promoting conservation and that it could not condone price control.

What is the meaning of this incident? Is it possible that the Federal administration has backed away from the Federal Oil Board? We think not. We believe that it means merely that the issues have not yet become sufficiently clarified to permit a forward movement, and it might be added the lack of clarity is not with those gentlemen or with the Federal administration.

Until the industry can distinguish between conservation and price control, and develop the movement accordingly, it must be conceded the attitude of the officials described partakes of the nature of statesmanship, however impatient we may be at its tendency to slow up progress. And until the industry will have gotten that same distinction across to the consuming public, the Federal administration or any state administration would be foolish indeed to sponsor such movement. There are many ways of terminating an administration but there are perhaps few that would be more effective.

Efficient Conservation

Efficient conservation measures mean stablization, with more efficient extraction and operation, all of which will permit a reasonable profit to the operator while at the same time bringing equal benefits to the consumer. Out of such orderly development the price problem would take care of itself for the efficient operator, and yet would not bolster up unsound promotions. With this as a definite, permanent program, the same agencies can be used to restrain production to consumptive demands as an emergency measure during overproduction periods. This method of putting the oil industry on a sound business basis is entirely different than arbitrarily restraining production by united action until some arbitrary price be effected sufficiently high to permit continuation of inefficient, competitive drainage methods, and designed merely to tide the industry over the present overproduction with no other thought than to start again on the same mad whirl and with the same methods. Between these two methods of bringing about proper economic conditions in the industry that will permit the efficient operator to live and the industry to profit, there is a wide and deep gulf.

Education Needed

How can the industry be educated to see this distinction and, how can the distinction be made clear to the consuming public? We believe there would be no expedient more effective than the simple one of having all meeting scheduled for its discussion held completely open, and arranging that there be many such open meetings designed to attract public attention and excite public discussion. There will be no great crowds clamoring for admission, nor great numbers demanding to be heard. The average individual bitterly resents being denied a voice in those things which affect him, but, being given that right, the common experience is that he then becomes supremely indifferent to exercising it. But his suspicions are dispelled—his confidence established. He knows it is improbable anything to his detriment will be attempted in a public meeting, and even if it is that he will learn of it soon enough to protect himself.

A simple analysis of the relationship of the parties in interest would seem to make clear that there is every reason the discussion, negotiations, and final arrangements should be open at all stages and closed at none. Who are the parties in interest? Whose co-operation is desired? First, the operators whose properties are immensely affected; second, the remainder of the petroleum industry; and third, the consuming public.

The Parties Interested

Discussions of these problems by the industry's leaders over the past several years have taken place on the theory that the first class is the only one in interest, and therefore the meetings should be confined to them. That is on the first thought quite a natural assumption and would be entirely proper if these were ordinary negotiations applying only to the particular properties under consideration. However, every other operator knows these are unusual negotiations — that they, if successful, will mark a change in practice in the industry that he must follow. As to the third, party, the consuming public, if only a few properties were involved the influence would not be sufficient to entitle the public to a hearing. However, in these negotiations the influence would be so widespread and involve so completely the public interest that the negotiations partake of a public character.

Of course the public speaks through officials of Government, but officials of Government, if they are wise, will go only so far and no further than public understanding and confidence will justify. The three parties in interest are, therefore, the direct owners, the remainder of the industry, and the public. The co-operation sought is merely a working agreement between these three parties in interest. In this working agreement there must be a meeting of minds. To those experienced in bringing about a meeting of minds leading up to an agreement, it is a fundamental principle that confidence must be established. Confidence is based on knowledge. Knowledge is a slow growth and it would be a poor negotiator indeed who, expecting to bring together three parties into an agreement, would refrain from acquainting any one or two of the three parties with a knowledge of the facts leading up to the agreement, or, to exclude them from participation in the discussions until told to sign on the dotted line. Particularly would such procedure be unwise if one of the parties excluded were in position to dictate terms and disposed to do so if not satisfied that fair terms are being given to it. It is clear that the public, by virtue of its legislative bodies, is in this position.

Psychology Considered

The writer has no authority to speak for any part of the industry; much less has he authority to speak for any part of Government. However, the psychology of the average oil man is rather well known and the public press makes known to all of us the attitude of those in positions of Government, acting as agents of the public. It is well known the average oil man is a very human individual, somewhat independent and disposed to have and maintain a voice in the handling of his own property. He, therefore, just naturally resents having laid down for him all prepared for his acceptance but without his being consulted, something which he must follow. He is suspicious of things that are handed out to him. He has little confidence that oil men are altogether altruistic in their designs, which of course does credit to his intelligence.

The public, being human also, and even less informed, is, therefore, even more suspicious of those things that ap-

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ASK HOOVER TO ADDRESS BANQUET DURING PETROLEUM EXPOSITION

Officials of the International Petroleum Exposition to be held in Tulsa from September 24 to October 1 announce that the annual banquet of the Mid-Continent Oil and Gas Association will be held in Tulsa during the Exposition, the tentative date being September 30, and that efforts are being made to have Herbert Hoover present and make an address. In this connection, it is understood other organizations are planning to hold their annual or semiannual meetings during the time of the Exposition when oil men from different sections of the country will be in Tulsa.

Governors, attorneys general and members of the corporation commissions of the states of Oklahoma, Kansas, Texas, Arkansas, Louisiana, New Mexico, Montana, Wyoming and Colorado have been invited by the Mid-Continent Oil & Gas Association to attend its annual banquet and visit the Exposition.

W. G. Skelly, president of the International Petroleum Exposition, is forming committees for detail work in connection with the Exposition. The committee on exhibits consists of Frank J. Hinderliter, president Hinderliter Tool Co., as chairman; O. C. Staples, Frick-Reid Supply Co.; A. W. Leonard, Devonian Oil Co.; C. C. Myer, Remedial Finance Corp.; Jess Norval, Norval & Dial; D. E. Buchanan, Chestnut & Smith Corp.; G. A. Thompson, Empire Companies, and H. M. Cosgrove of the Purchasing Agents Association.

Edward W. Wilson is chairman of the transportation committee and his associates are executives, general agents and managers of railways and the manager of the Tulsa Traffic Association.

P. D. Hayes, of the Exchange National Bank, is chairman of police and fire protection, and D. D. Wertzberger is chairman of grounds and buildings.

J. Burr Gibbons, general manager of the Exposition, announces the following firms have signed contracts for exhibit space at the Exposition:

1927 Exhibitors' List, International Petroleum Exposition

Allan & Co., George B., Dallas, Tex.
Allegheny Steel Co., Brackenridge, Pa.
American Car and Foundry Co., St. Louis, Mo.
Andrews Steel Co., Newport, Ky.
Armstrong Machine Works, Three Rivers, Mich.
Atmore Co., Robert N., Tulsa.
Automatic Electric, Inc., Chicago, Ill.
Barco Manufacturing Co., Chicago, Ill.
Bennett Pumps Co., Muskegon, Mich.
Bethlehem Foundry & Machine Co., Bethlehem, Pa.
Bovaird Supply Co., Tulsa.
The Bristol Co., Waterbury, Conn.
Burt Corp., Tulsa.
Cameron Tool & Supply Co., Cameron, W. Va.
Camp Company, C. F., Tulsa.
Chicago Bridge & Iron Works, Chicago, Ill.
Coen Co., San Francisco, Calif.
Dearborn Chemical Co., Chicago, Ill.
Dickson, L. E., Breckenridge, Tex.

(Continued on Page 90)

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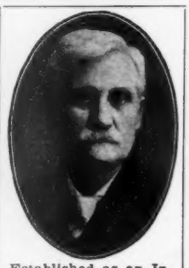

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MEMBER AUDIT BUREAU OF CIRCULATIONS

MORE CONFERENCES NEEDED

Because Seminole production has risen to new heights comment in the daily newspapers and even in financial journals which ought to know better has assumed that the recent conferences on conservation have been a flat failure.

It is a popular delusion to look for immediate results and if they are not sensational to jump to the conclusion that nothing has been accomplished.

No one familiar with the industry expected that the Seminole agreement would lower production at once. Operations in progress could not be shut down without manifest injustice. The best that could be hoped was an agreement upon future operations and this has been working out just about as planned.

The effect is to be seen, not in lowering production, but in preventing it from reaching much higher figures. It is the difference between a runaway and orderly progress.

Attempts to be humorous over the supposed failure of the industry in Seminole are therefore very far wide of the mark and only betray ignorance of the actual situation and the results already attained.

Those in position to know believe that the action of Mr. Teagle and those associated with him in arranging the Washington and New York conferences and in reaching the Seminole agreement greatly eased the situation of the industry at a critical moment and has been mainly responsible for the much more cheerful state of mind that has since resulted.

More than that, it has set an example that is certain to be heeded in the future, and, more than anything in recent years, has started the industry on the way to a solution of its chief problems.

It has established the possibility of co-operation within the industry in dealing with situations threatening overproduction, demonstrating in actual accomplishment what many always said was utterly impossible.

The fact that this was achieved only through conferences, through frank discussion and a common determination to find a remedy, cannot be forgotten and indicates the necessity for continuing such conferences when occasion arises.

Seminole was but one incident. There will be others and they should be met in the same way. Problems and questions are constantly coming forward which the industry should face promptly and fearlessly.

The Washington and New York meetings were something new. There were no precedents and many doubts and hesitations, and, indeed, no little angry opposition. The success of the conferences was a surprise to many skeptics disappointed in the outcome. Now that it has been proved, future meetings to deal with issues as they arise should be easier to arrange and carry out. In fact, it would be well if, instead of waiting for a crisis, meetings were held to plan so that such situations should be avoided.

It is now seen that the Seminole conferences should have been convened earlier but it may have taken the accumulating force of circumstances to bring it about. That experience, however, ought to be a warning and a guide hereafter.

In this connection attention may be called to the letter of Earl Oliver, published in this issue of The Oil and Gas Journal, in which he urges that "open covenants, openly arrived at," are necessary to win and hold popular confidence.

The industry has been enabled to make its effort to solve the Seminole situation through the understanding attitude of the Federal Government anxious for the conservation of our oil resources. But unless the public at large has the same understanding of the matter there is danger of its being misled into critical opposition.

By the time Congress meets in the Fall the industry is expected to be in better position with necessary readjustments in market values. This may be seized upon by some political critics as a pretext for attack upon the administration's attitude towards the industry.

The industry owes it to the administration as well as to itself to be prepared for any such situation. It cannot afford to allow the administration which has been so helpful to be embarrassed by unfounded criticism on the industry's behalf.

The best thing the industry can do is to prove by its acts that it has nothing to hide, that its co-operative effort is solely for the purpose of conservation as demanded by the Federal Oil Board and the welfare of the nation, and that each step taken is placed squarely before the Government and the public in the broad light of day.

That was the course followed in the Washington conferences which prepared the public mind for what was to be done by showing the necessity for it and the wisdom of doing it that way.

A policy which has proved so successful should be continued and expanded. A look ahead indicates several situations which will require co-operative effort. These should not be delayed until the damage is done or nothing is left to be tried except to limit it.

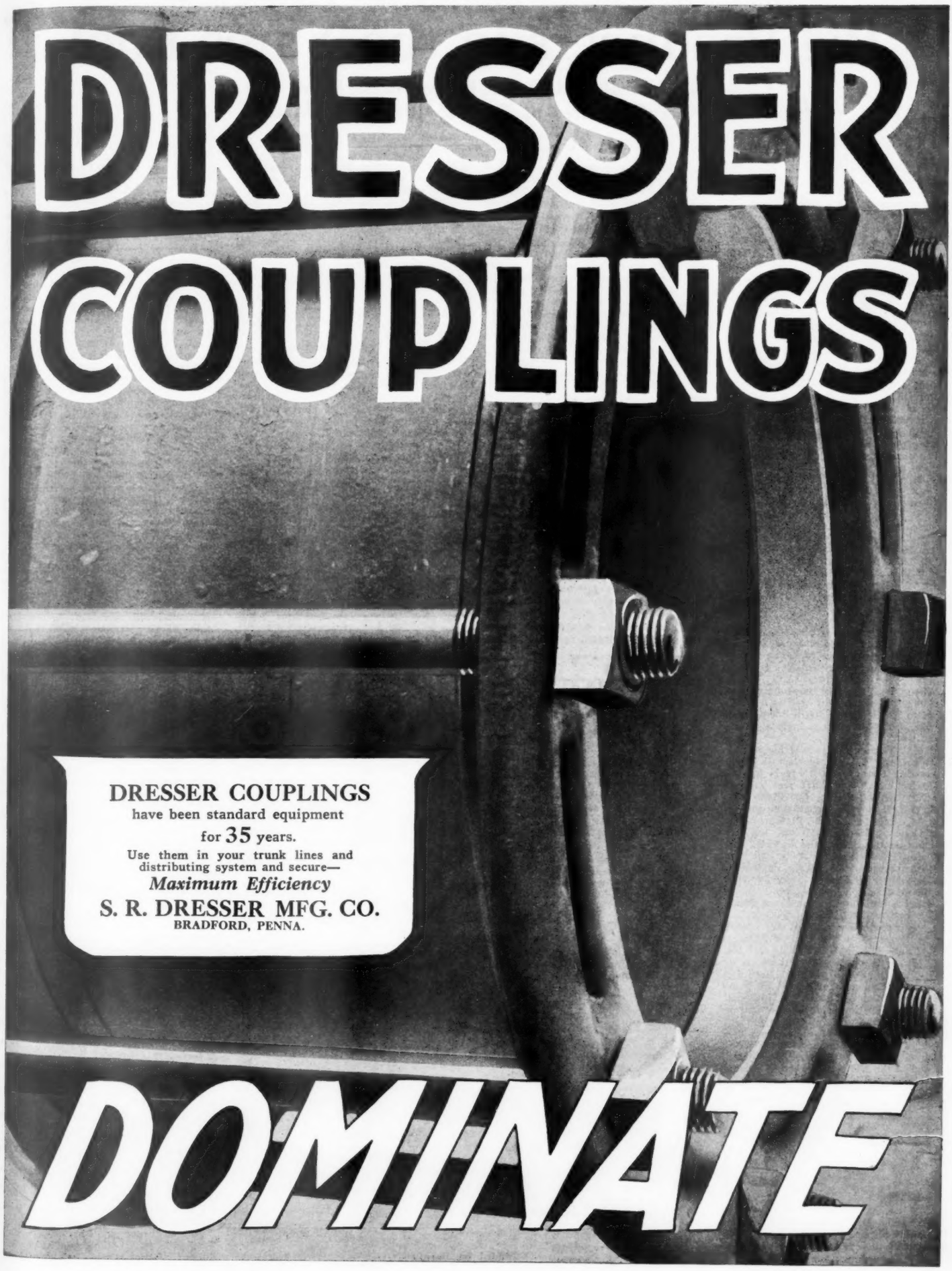
Conferences should be preventive rather than remedial. It will take less effort to avert trouble than to cure it now that the practicability and effectiveness of conferences has been shown.

Summed up, the situation is just this. The oil industry, for so many years the butt of politics and public criticism, has been fortunate in getting an opportunity to prove its good faith to the Government at Washington which has had the courage to recognize the justice of the industry's case. There must be scrupulous care that no basis is given for future misunderstanding or suspicion.

Matters must not be allowed to slide. They must be taken hold of and directed intelligently. It is a job for the whole industry. There must be public justification for everything that is done.

The most effective way of dealing with these problems from the standpoint of the industry as well as for the enlightenment of the public is by meetings like those at Washington and New York where with full public notice representatives of the industry get together to discuss what should be done and how to do it.

The main thing is that these meetings should not be delayed until an emergency is upon us; they should be planned to prepare for such situations as Seminole, West Texas or Alamitos Heights when it is foreseen they are about to develop. If there is no other convenient way the board of directors of the American Petroleum Institute should be empowered to act as a standing committee to watch developments and advise when meetings are necessary.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DOMINATE

Big Producers in the Yates Pool

Ninth Well Looked Like Biggest in the Field. Another Estimated at Rate of 10 Bbls. a Minute

By C. D. Lockwood
Staff Correspondent, North and West Texas

FORT WORTH, Tex., June 27.—The ninth producer in the Yates Pool of Pecos County would probably have broken all initial production records in West Texas for all time if it had been allowed to flow open when drilled into the pay last week. As it was, however, it produced 1,860 bbls. first four hours open and on'y 6,245 bbls. the first 24 hours, flowing between the 8-inch and 10-inch casing through a 3-inch bleeder for the other 20 hours. This was No. 6 Yates-A, belonging to the Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co., and is located 500 feet south of No. 1 Yates-C. It topped the pay at 935 feet and found the big pay at 1,045 feet, its present total depth, extending the pool.

The same companies' No. 1 Yates-B, farthest north producer in the pool, probably is a still better well than No. 6 Yates-A, judging by its past performance and especially its behavior last week when it was opened up for the benefit of a large group of Transcontinental officials who visited the property. In just 30 minutes while open it flowed 300 bbls., or 10 bbls. a minute. This would be 14,400 bbls. daily if maintained for 24 hours. No. 2 Yates-B, located northeast of No. 1, is now shut down on top of the sand with a hole full of oil at 1,265-70 feet, surface elevation being 2,635 feet. This is an extension of about a quarter of a mile to the north.

Not satisfied with the foregoing "strippers," the owners deepened No. 4 Yates-A during the week from 1,229 feet to 1,249 feet and increased its production to 150 bbls. an hour. This well is a south offset to No. 1-B and is still not as deep as No. 1-B, considering surface elevations.

The California Co. is starting a well northwest of No. 1-B which will be an interesting test to watch. It is located 1,300 feet north and 1,277 feet west of the NE cor. of Section 33, Block 194, G. C. & S. F. Survey, but situated in Section 34, same block. The McMan Oil & Gas Co. and Marland Oil Co. are also starting another interesting test still farther to the northwest. It is 330 feet north and west of the NE cor. of Section 35, Block 194, but located in Section 34½ on the acreage in which McMan recently acquired a half interest for about $500,000 in cash and oil.

Pecos River Bed Well

The Pecos River bed well of Allsman & Bell flowed 181 bbls., 160 bbls. and 110 bbls. June 21 to 23 at total depth of 1,070 feet, 100 feet in the pay. Saturday it was reported making 8 bbls. an hour. No water is in evidence yet, although the bottom of the hole in this well is 139 feet lower, structurally, than the bottom of No. 1 Yates-C, the deepest producer in the pool. Marland Oil Co. has a machine up for No. 1 Yates, west offset, located in the NE cor. of Section 60, and Allsman & Bell have made location for their No. 2 River bed, north of No. 1. Following is the production report of the Yates Pool for Saturday morning:

No.		Bbls.	Hours
1	River bed	192	24
1 and 3	Yates-A	490	9
2	Yates-A	272	9
4	Yates-A	309	8
6	Yates-A	6,245	24
1	Yates-B	210	7
1	Yates-C	392	16
1	Smith-Taylor	215	7
		8,325	

All of the Mid-Kansas and Transcontinental wells are pinched in to a small fraction of their capacity.

No. 5 Yates-A is changing boiler at 200 feet; Nos. 7 and 8 are locations; No. 2 Yates-B is shut down for storage with a hole full of oil at 1,265-70 feet; No. 3-B is a new location, but foot measurements are not available.

Church-Fields Pool

There are now 66 operations in the Church-Fields Pool of Crane County and 100 producers which averaged 52,542 bbls. daily last week. Some good wells were added during the week, the latest having been Tidal Oil Co.'s No. 5 University-F in Section 46, Block 30, which flowed 85 bbls. an hour at 2.835-2,921 feet. Landreth Production Corp.'s No. 5 Cowden-Anderson, on the celebrated strip between the two pools, was shot with 210 quarts last Thursday from 2,779-2,908 feet and flowed 80 bbls. the first hour, 60 bbls. the second hour and 30 bbls. the third hour. On that date, Landreth's production was 4,437 bbls. from 4 wells, his storage amounted to 33,560 bbls., he had two 55,000-bbl. tanks completed, one under construction and three others in transit. His production Sunday was 2,383 bbls., No. 1 making 745 bbls., Nos. 2 and 3, 2,071 bbls., and No. 5, 567 bbls. Rigs are being built for Nos. 9 and 10, spaced regularly 660 feet and 1,320 feet west of No. 8.

Cromwell & Pickrell had 1,616 bbls. from three wells offsetting Landreth on the same date. The best well is No. 6, which was shot with 160 quarts this week at 2,780-2,980 feet and flowed 1,160 bbls. initial. Sunday it made 954 bbls.

Simms and Atlantic's No. 2 University-D was shot the third time with 140 quarts at 2,798-2,853 feet and hasn't flowed since. The first shot was 150 quarts and the second 300 quarts, making a total of 540 quarts in all.

Following is the status of operations in the combined Church-Fields and Gulf-McElroy area, which is now one pool:

Rigs	23
Drilling about 1,000 feet	7
Drilling 1,000-2,000 feet	6
Drilling below 2,000 feet	21
Making oil but not completed	9
Fishing	1
Total	67
Producing wells	100
Daily average production	52,542
Average initial production	1,175
Average total depth	2,850-3,050 ft.

West Texas Production

West Texas production from 14 counties, including Jones County, averaged 116,147 bbls. the past week, an increase of 6,197 bbls. This came from 825 producing wells, of which 188 are in the Big Lake Field. The per well average in West Texas is 140 bbls.

Gulf Production Co. added five new tests in the Church-Fields Pool this week. No. 25 is 200 feet south and 2,310 feet west of NE cor. Section 201; No. 26, 200 feet south and 2,970 feet west, same corner; No. 27, 771 feet south and 1,320 feet west; No. 28, 771 feet south and 1,980 feet west; No. 29, 771 feet south and 2,640 feet west of same NE cor. Section 201.

Gulf's No. 14 J. T. McElroy was shot with 145 quarts at 2,791-2,940 feet and flowed 80 bbls. the first hour, 815 bbls. the first day and 1,110 bbls. the second day. No. 15 was completed for 1,435 bbls. at 2,896 feet, gravity 32.9 degrees; No. 10 State-Lasseter swabbed 100 bbls. at 3,086 feet after a 95-quart shot at 3,012-76 feet.

Gulf's No. 1 E. S. Hughes, offsetting the Snowden & McSweeney producer, had a hole full of sulphur water at 2,350 feet and will be plugged.

The Connell Pool in Ector County was the scene of considerable interest during the week, as the two Cosden tests reached the depth at which the pay was expected. No. 2 Connell-A topped the pay at 3,471 feet and at total depth of 3,515 feet was shot with 180 quarts Sunday. The well cleaned itself, but the pipe jumped about 10 feet and is thought to have collapsed. It is now shut down for casing clamp and making about 1,000,000 feet of gas. There was 160 feet of oil in the hole before the shot. No. 3 had three-quarters of a bailer of live oil in the hole at 3,499 feet after a 2½-hour shutdown, and was drilling ahead at 3,530 feet.

Winkler County

Four wells in the Hendricks Pool of Winkler County were reported shut down after cementing the 8-inch at depths from 2,371 to 2,525 feet, three by the Southern Crude Oil Purchasing Co. and one by the Pure Oil Co. The latter well is Pure's No. 2 Hendricks, a half mile east of the discovery well and running higher than any of the five producers. Texon Oil & Land Co.'s No. 1, east offset to Pure's No. 2, is running still higher on the salt, having topped that formation at 1,450 feet, more than 60 feet higher than the Pure well.

There are 17 operations in the Hendricks Pool, exclusive of wildcats more than 2 miles away; 1 rig, 3 wells less than 1,000 feet deep, 9 wells between 1,000 and 2,000 feet, 4 cemented and shut down. Average total depths range from 2,842 to 3,093 feet.

Another Ward County disappointment is Marland Oil Co. and F. P. Zoch's No. 1 J. Sealey, which is preparing to abandon at 3,506 feet.

In Crockett County, P. H. Williams' No. 1 Powell, south of the World Pool, made 600 bbls. of oil and 15 bbls. of water last Thursday, but the water is thought to be coming from behind the pipe. Humble Oil & Refining Co. has made location for a north offset in SE cor. W half Section 62, Block BB, G. C. & S. F. Survey.

George Anderson and Marland Oil Co. made location for No. 1 University, 1,320 feet from south line and on the west line of Section 2, Block 50, University Land, Crockett County.

North Central Texas

A 40-bbl. an hour extension to the new area southwest of Carbon in Eastland County was the outstanding feature of North Central Texas field reports this week. Production of the district dropped from 163,190 bbls. to 160,845 bbls., a loss of 2,345 bbls.

The extension producer is Lowe, Delaney & Carter's No. 1 Barnett, NE cor. SW, Section 15, Block 3, diagonally southwest across 40 acres from Cranfill & Reynolds' producer. It had black lime from 2,958 to 3,030 feet, and after a 200-quart shot started off at 40 bbls. an hour.

In Wichita County, L. P. Hammond's No. 1 Munger in the Moses Roberts Survey, A-246, swabbed 50 bbls. the first five hours from sand at 1,759-60 feet. This is a 2,300-foot extension southwest of Petroleum Producers Co.'s No. 1 Allen & Kemp-B.

In Shackelford County, Prairie Oil & Gas Co.'s No. 1 Reynolds, NW of Section 38, Block 12, T. & P. Survey, was making 11,000,000 feet of gas and some water from sand at 1,608-12 feet.

In northwestern Eastland County, Transcontinental Oil Co.'s No. 1 Weddington, west of Moody Petroleum Corp.'s

WILDCAT OPERATIONS IN WEST TEXAS

Week ending June 25

Company, Farm and Location—	Remarks—
ANDREWS COUNTY	
Calvin & Belt's No. 1 Ratliff & Bedford, C NE Sec. 16, Blk. A-54	Rig.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 8, Blk. 73, Public School Land	Repairing rig and hauling in casing.
Sartain Oil Co. et al's (was Deep Rock Oil Co.'s) No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land	Shut down 100 ft.
C. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Spudded 30 ft. and shut down.
A. G. Carter & Zweifel's No. 1 Cowden, C SE Sec. 18, Blk. A-52, Public School Land Sur., elev. 3,156 ft.	Top salt 1,375 ft.; shut down for orders 3,500 ft.
Maer & Staniforth's No. 1 W. B. Taylor, C SE Sec. 15, Blk. A-42, Public School Land Sur., elev. 3,215 ft.	Top salt 1,650 ft.; little gas from 3,010 ft.; shut down for repairs 4,035 ft.
BORDEN COUNTY	
J. L. Kennedy's No. 1 J. S. York, SE cor. Sec. 322, Blk. 97, H. & T. C. Sur.	Fishing tools 980 ft.
Stivers et al's No. 1 Snodgrass, C NW Sec. 475, Blk. 97, H. & T. C. Sur.	Shut down 3,000 ft.; lime; contract depth.
BREWSTER COUNTY	
McPhail & Kemper's No. 1 Brown, C Sec. 43, Blk. WJC-8, T. C. R. R. Sur.	Location.
McPhail & Kemper's No. 1 McIntyre, SE cor. Sec. 31, Blk. 352, 7 mi. S of Alpine	Shut down 240 ft.
COKE COUNTY	
Danciger O. & R. Co.'s No. 1 Mrs. Byrnes, Clinton Sur.	Shut down for casing 602 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H. & T. C. Sur.	Shut down 1,215 ft. for 10-in.
CONCHO COUNTY	
Harry Adams et al's No. 1 Price, C SW Sec. 78, Blk. 71, Alex Gregg Sur.	Shut down 1,040 ft.
Arkansas Fuel Co.'s No. 1 Hartgrove, SW cor. NW Sec. 49, Blk. 70, H. & T. C. Sur., 12 mi. E of Paintrock	1,000,000 ft. gas 1,100-10 ft.; 4,500,000 ft. gas 1,142-47 ft.; small show oil in sandy lime 2,165 ft.; show oil 2,454-80 ft.; show oil and 200,000 ft. gas 2,494-2,512 ft.; bailed 8 bbls.; total depth 3,236 ft.; plugged back to gas sand.
Associated Oil Co.'s No. 1 Sam Waring, Sec. 2,035, J. W. Godhardt Sur.	Rebuilding rig; 500 ft.; rigging up.
The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur.	Shut down 1,930 ft.
CROCKETT COUNTY	
Anchor Oil Co. (Cumberland) No. 1 Couch, C NE Sec. 18, Blk. QR, D. & S. E. T. R. R. Sur.	Shut down 3,075 ft.
George Anderson and Marland Oil Co.'s No. 1 University	New location; building rig.
V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I. & G. N. Sur.	Shut down 2,110 ft.
J. K. Hughes' No. 2-B Powell, Sec. 63, E. L. & R. R. Sur.	Fishing for 18 joints 8-in.; total depth 2,535 ft.; shut down.
Magnolia Petroleum Co.'s No. 2 Shannon	Show oil 2,385-90 and 2,992 ft.; total depth 4,100 ft.; fishing 20 joints 8-in. casing.

(Continued on Page 86)

No. 1 Dyer, was drilling at 3,841 feet and expecting to reach the Dyer pay within the next 30 feet. Moody's No. 1 McClelland, old gasser offsetting No. 1 Dyer to the east, is rigging up to deepen to the Dyer pay.

DRILLING REPORT

Church-Fields Pool

Crane County

Church & Weekly's No. 3 University, Section 29, drilling 2,550 feet, elevation 2,557 feet. Cromwell and others' Nos. 2 and 3 University are moving in material.

Carl Cromwell & Pickrell's No. 4 University, Section 47, had a hole full of oil at 2,793-2,860 feet and fishing for swab and flowed 161 bbls. elevation 2,560 feet; No. 5, Section 47, was flowing 712 bbls. after a 45-quart shot at 2,801-78 feet, top pay 2,790 feet, total depth 2,993 feet; No. 6, same section, flowed 1,180 bbls. at 2,760 feet, elevation 2,560 feet. It was shot with 160 quarts at 2,780-2,980 feet and flowed 1,160 bbls. first 19 hours; No. 7, same section, top pay 2,773 feet and drilling 2,944 feet with a hole full of oil, elevation 2,564 feet; No. 11, same section, drilling 2,335 feet, elevation 2,567 feet; No. 12, same section, drilling 2,665 feet, elevation 2,564 feet.

Eastland Oil Co. and Collett's No. 3 University, Section 47, drilling 2,770 feet, elevation 2,561 feet; No. 5, same section, drilling 2,808 feet, elevation 2,567 feet; No. 6, same section, drilling 2,670 feet, elevation 2,575 feet; No. 7, same section, drilling 2,820 feet, elevation 2,574 feet.

Gulf Production Co.'s No. 8 State-Lasseter, Section 35, drilling lime 2,955 feet, elevation 2,602 feet; No. 9, same section, drilling 2,970 feet lime, top brown lime 2,906 feet, elevation 2,602 feet; No. 2 Waddell, Section 10, drilling 1,480 feet salt, top salt 1,170 feet; No. 13 J. T. McElroy set 6-inch casing at 2,051 feet; No. 14, Section 200, completed 1,110 bbls. at 2,949 feet after shot with 145 quarts at 2,791-2,940 feet and made 815 bbls. first 24 hours and 1,110 bbls. second 24 hours; No. 15, same section, made 1,365 bbls. at 2,896 feet, elevation 2,566 feet; No. 16, same section, drilling 2,675 feet, brown lime, top brown lime at 2,650 feet; No. 17, red rock 310 feet; No. 18, red rock 960 feet; No. 19, rigging up; No. 20, rigging up; No. 21, rigging up, No. 22, rigging up; Nos. 23, 24 and 25, building rigs; Nos. 28 to 29, moving in material.

Humble Oil & Refining Co.'s No. 9 University, Section 38, shot with 140 quarts at 2,895-2,965 feet, made one flow of 50 bbls. and fishing tools at 2,954 feet; No. 10, same section, top salt at 1,205 feet and drilling 2,330 feet; No. 11, same section, drilling 902 feet.

Independent Oil & Gas Co.'s No. 3 University-A, rigging up; No. 1 University-B, drilling 1,880 feet.

Landreth Production Co.'s No. 3 Cowden-Anderson, Section 47, found pay at 2,775-2,855 feet and flowed and swabbed 155 bbls., elevation 2,561 feet; No. 4, same section, drilling 2,723 feet; No. 5, same section, 2,750-2,908 feet, and shot with 210 quarts at 2,779-2,908 feet and made 80 bbls. first hour, 60 bbls. second hour and 30 bbls. third hour; No. 6, same section, set 6-inch at 2,674 feet; No. 7, same section, drilling 1,115 feet; No. 8, same section, drilling 1,135 feet; No. 9, same section, rig on ground; No. 10, location.

Magnolia Petroleum Co.'s No. 6 O'Keefe-University, Section 38, had a show of oil at 2,835 feet and top pay 3,000 feet, drilling 3,043 feet, with 2,000 feet oil in the hole; No. 8, same section, spudding 180 feet; No. 10, same section, rig; No. 3 State-Lasseter, Section 34, rigged up and shut down; No. 4, same section, drilling 520 feet; No. 2 University-Hardwick, Section 39, total depth 2,925 feet, pulled 5-inch casing and drilling up spear; No. 3, same section, rig; No. 7, Section 38, drilling 850 feet; No. 8, Section 35, drilling 780 feet; No. 9, Section 46, drilling 735 feet.

Prairie Oil & Gas Co.'s No. 2 State-Lasseter, Section 47, top salt 1,155 feet and drilling 1,200 feet.

Simms & Atlantic's No. 8-A University, Section 39, total depth 2,780 feet and drilling by whipstock 2,320 feet; No. 9-A, same section, running 6-inch at 2,770 feet; No. 3 University-C, Section 47, top pay 2,792 feet and drilling 2,875 feet with a hole full of oil; No. 4, same section, top salt 1,045 feet and fishing 1,900 feet; No. 5, same section, setting 6-inch casing and drilling ahead; No. 6, same section, found top salt 1,100 feet and drilling 1,255 feet; No. 2 University-D, Section 46, shot; No. 3, rigging up; Nos. 4 and 5, moving in material; No. 6, rigging up; No. 1 University-E, top salt 1,220 feet drilling 2,375 feet.

Tidal Oil Co.'s No. 6 University-F, Section 46, drilling 2,440 feet; No. 1 University-I, Section 47, drilling 2,795 feet and set 6-inch at 2,679 feet with top pay 2,780 feet and 600 feet oil in the hole.

WEST TEXAS COMPLETIONS

Crane County

Cromwell & Pickrell's No. 5 University was shot with 160 quarts at 2,901-55 feet and is flowing 825 bbls. from sand at 2,790-2,993 feet. Landreth Production Corp.'s No. 2 State found top of pay at 2,810-2,910 feet and was flowing 1,970 bbls. before shot. It was shot with 120 quarts at 2,817-95 feet and flowed 2,677 bbls.; No. 3 found sand at 2,775-2,946 feet. It was shot with 240 quarts at 2,795-2,926 feet and was flowing 1,637 bbls.

Howard County

Magnolia Petroleum Co.'s No. 4 Sloan Chalk had sand at 1,552-67 feet and made 20 bbls. after a 20-quart shot. Marland Oil Co.'s No. 1 J. B. Harding found sand at 3,173-3,230 feet and pumped 50 bbls. of oil and 7 bbls. of water after the head was pumped off. Shot record was 200 quarts at 3,158-88 feet. Godley Oil Co.'s No. 1 A. J. Hooks had sand at 1,831-42 feet and is swabbing 35 bbls. after a 60-quart shot at 1,831-42 feet. Pure Oil Co.'s No. 1 Otis Chalk found the top first pay at 1,769 feet and top second pay at 1,804 feet and was swabbing 35 bbls. initial from sand at 1,774-94 feet after a 40-quart shot.

Fisher County

Barber Oil Co.'s No. 1 Cross was a failure at 3,005 feet.

Jones County

Atlantic Oil Producing Co.'s No. 2 E. Powell was plugged back to 2,545 feet and was shot with 128 quarts at 2,516-40 feet. Twenty joints of casing were dropped so the hole was junked and abandoned at 2,700 feet. Phillips Petroleum Co.'s No. 1 Ira Thompson was a duster at 3,088 feet; No. 1 Vestal made 95 bbls. at 2,516-20 feet. Shaw & Rathke's No. 1 Bristow was temporarily abandoned at 500 feet.

Mitchell County

Magnolia Petroleum Co.'s No. 4 F. A. Adams made 25 bbls. initial from sand at 2,933-3,060 feet and was shot with 320 quarts, increasing to 60 bbls. initial.

Reagan County

Big Lake Oil Co.'s No. 115 University made 570 bbls. from sand at 2,839-2,945 feet; No. 120 also made 450 bbls. from sand at 2,844-63 feet.

Upton County

Beatty and others' No. 1 J. F. Lane was dry and abandoned at 3,550 feet.

Dixie Oil Co.'s No. 25 Burleson made 743 bbls. at 1,950-2,035 feet. W. W. Donnelly and others' No. 1 University was a duster at 3,780 feet. White Eagle Oil & Refining Co.'s No. 1 Hughes pumped 55 bbls. of oil and 65 bbls. of water at 2,303-05 feet.

Winkler County

L. D. Ladd and others' No. 1 Amburgey was temporarily abandoned at 3,447 feet.

SINCLAIR WELL RATED 5,000 BBLS. IN CACALILAO SECTOR, MEXICO

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mexico, June 24.—The best well of the week in Mexican fields is Mexican Sinclair Petroleum Corp.'s No. 154, Lot 1 in the Cacalilao sector of the northern fields, which is rated at 5,000 bbls. at the shallow depth of 1,553 feet. In the much discussed Salinas sector, Mexican Gulf Oil Co. scored a 4,000-bbl. well in its No. 49 at 1,800 feet, another shallow well. In Altamira, Rich Mex Oil Co. has a well rated for about 100 bbls. at 1,547 feet in its No. 13, Lot 26, but there is noticeable absence of gas in the hole. The above three completions sum the producers during the week. There were 11 failures recorded, all of them being in the northern fields.

In the Salinas sector the failures were the most noticeable. Mexican Petroleum Co.'s No. 3 Shepard there, its No. 10 Budde and No. 3 Vonphul all finished for dusters at 2,700 feet, respectively. Mexican Gulf Oil Co.'s No. 28 Salinas is also dry at 2,630 feet. In the Conteca, juxtaposed to the Salinas, National Lines' No. 60 is dry at 2,535 feet. Other failures follow: International Petroleum Co.'s No. 310, Lot 8 Cacalilao, drilled into salt water at 2,220 feet; its No. 17 Lot 1 Corcovado, is dry at 2,252 feet. Cia. Pet. Franco Espanola, No. 101 Limons, is dry at 2,740 feet. Mexican Sinclair Petroleum Corp.'s Nos. 124-A and 214, Lot 2 Cacalilao, both drilled into salt water at 2,042 and 2,000 feet, respectively. National Lines' No. 140 Champayan finished a duster at 2,020 feet.

The rainy season commenced with a veritable downpour the middle of last week, and the rains keep falling. This settles a long drouth, but it is slowing field work as roads and trails are awash. The rivers are rising rapidly.

Late News from the Fields

I. T. I.'s New Well, Section 1-7-6, Starts At 435 Bbls. an Hour

The Indian Territory Illuminating Oil Co.'s No. 1, NW cor. Section 1-7-6, which has been held down to a minimum of production pending the closing of arrangements by near-by operators as to the future development work in the field, was drilled 6 feet in the sand topped at 4,017 feet and the production increased to 435 bbls. per hour, or at the rate of over 11,000 bbls. per day. The above gauge was received Tuesday morning from the field. This is regarded as one of the most important wells drilled in Oklahoma in years. With the Wilcox pay at the comparatively shallow depth of 4,017 feet, much higher than the average depth in either Bowlegs, Seminole City, Earlsboro or Searight, it is considered very probable that the I. T. I. has the opening well of a large major pool. It will take about three months to determine what other drilling in this area will develop, and no one can tell how the initial well will hold up, but, because of its position structurally and taking into consideration the history of other wells in the general Seminole area, the trade regards the I. T. I. well with the greatest respect. Lease obligations required the completion of the well. Ten permitted locations have been made near it.

SEMINOLE PRODUCTION
For 24 Hours Ending Sunday at 7 A. M.
(Revised)

Company—	Bbls.
Amerada Petroleum Co.	26,269
Atlantic Oil Producing Co.	12,181
Barnsdall Oil Corp.	16,526
Carter Oil Co.	72,580
Empire Gas & Fuel Co.	19,562
Gypsy Oil Co.	22,306
Independent-Marland	1,365
Independent Oil & Gas Co.	3,659
Independent & Garland	1,016
Independent & Interocean	880
Interocean Oil Co.	660
Indian Territory Illuminating Oil Co.	59,094
McCulloch Oil Co.	1,210
Mid-Continent Petroleum Co.	14,686
Minnehoma Oil Co.	2,897
Prairie Oil & Gas Co.	27,234
Pure Oil Co.	34,842
Roxana Petroleum Co.	5,451
Shaffer Oil & Refining Co.	2,116
Sinclair Oil & Gas Co.	20,704
The Texas Company	5,949
Tidal Oil Co.	10,535
Kingwood Oil Co.	2,258
Magnolia Petroleum Co.	24,159
Mid-Kansas Oil & Gas Co.	869
Phillips Petroleum Co.	3,789
Philmack Oil Co.	2,212
J. E. Crosbie	2,695
T. B. Slick	4,373
Superior Oil Co.	2,300
Turman Oil Co.	3,371
Twin State Oil Co.	1,415
Wilcox Oil & Gas Co.	2,636
Shallow production	4,020
Total	415,819

Bowlegs and Earlsboro Increase

Application of air to recently completed wells in Bowlegs increased the production of that pool to 180,808 bbls. from 124 wells and new big producers in the Earlsboro Pool sent the production of that area up to 93,703 bbls. from 80 wells. This, together with 106,004 bbls. in the Seminole City Pool from 80 wells and 35,304 bbls. from 43 wells in the Searight Pool, gave Seminole a total of 415,819 bbls. for the 24 hours ending Sunday morning. This did not include the new well in Section 1-7-6.

The Prairie Oil & Gas Co.'s two new wells on the Stedham lease in Section 11-9-5, Earlsboro, made 8,800 bbls. on the day the above production was recorded. The Empire Gas & Fuel Co.'s No. 1 Adams, in Section 3, made 9,546 bbls. The Carter Oil Co.'s No. 1 Payne, NW cor. SE Section 12-9-5, was producing 300 bbls. an hour from Wilcox sand at 4,365-72 feet. The Gypsy Oil Co.'s No. 1 Noble in Section 12-9-5 made 3,562 bbls. from sand at 4,365-72 feet, and the Prairie Oil & Gas Co.'s No. 1 Davis in Section 13-9-5 was good for 2,325 bbls. at 4,413-14 feet. These were the most important of the recent completions in the Earlsboro area.

(Continued on Page 143)

NORTH CENTRAL TEXAS

Estimated Production for Week Ending June 25, 1927

	June 18	June 25
Ranger District—		
Brown County	23,620	23,990
Callahan County	4,350	4,255
Coleman County	1,180	1,165
Comanche County	1,580	1,540
Palo Pinto County	445	440
Ranger D	10,140	10,080
Shackelford County	7,875	7,850
Stephens County	9,970	9,950
Total Ranger district	59,160	58,270
Wichita Falls District—		
Archer County	27,860	27,805
Baylor County	95	95
Clay County	715	715
Cooke County	3,950	3,855
Jack County	635	610
Montague County	12,395	12,315
Throckmorton County	2,040	1,970
Wichita County	31,350	31,190
Wilbarger County	13,250	13,225
Young County	11,740	10,795
Total Wichita Falls district	104,030	102,575
Total North Central Texas	163,190	160,845
West Texas District—		
Big Lake Field	25,132	24,512
Crane County	48,509	54,097
Crockett County	1,189	1,697
Ector County	15	15
Garza County	4	4
Glasscock County	30	40
Howard County	3,190	3,146
Jones County	1,847	1,930
Loving County	25	25
Mitchell County	3,554	3,776
Pecos County	5,160	4,920
Scurry County	22	20
Upton County	19,832	20,727
Winkler County	1,441	1,238
Total West Texas district	109,950	116,147
Grand total N. and W. Tex.	273,140	276,992
Increase		3,852

NORTH CENTRAL AND WEST TEXAS COMPLETIONS

Archer County

Continental Oil Co. and Perkins & Cullum's No. 4 Wilson made 25 bbls. of oil from sand at 1,228-44 feet. Simms & Consolidated Oil Co.'s No. 4 Turbeville found sand at 1,484-1,500 feet and made 11 bbls. of oil and 3 bbls. of water. Underwood Drilling Co.'s No. 1 Lucey was a duster at 2,003 feet. United Production Co.'s No. 1 Perkins and others made 12 bbls. initial from sand at 1,012-32 feet.

(Continued on Page 140)

Hale County Has Shallow Showing

Moore County Wildcat Fishing for Lost Tools, but Is Making 90 Bbls. by Heads

By James H. Dameron
Staff Correspondent, Texas Panhandle Fields

AMARILLO, Tex., June 27.—Developments at Hale County's single operating wildcat and at the A. D. Morton & Co.'s wildcat in Moore County, were the most interesting to Panhandle operators from the wildcat territory. Production in the district declined 3,345 bbls. in daily average and at the same time movement of Panhandle crude out of the district was brisk.

Hale County, south of Amarillo, was the mecca for scores of Panhandle scouts and oil men. Engleking Drilling Co.'s No. 1 Mullican, southwest of Hale Center and in rank wildcat territory, has found a shallow showing, the worth of which is variously estimated, that is causing an active interest to be taken in that sector. The most conservative of the reports from the well read that 150 feet of fluid is standing in the hole from sand at 407-10 feet. The oil tested 31.2 corrected gravity and the fluid contains approximately 10 per cent water and b.s.

The showing, in the opinion of conservative operators, will result in a "play" for that sector and the drilling of more tests there. At present there are few reports from the field that can be verified and the extent of lease trading, if any, is not known.

Some have estimated the well will make a 10 or 12-bbl. pumper while others estimate it will make a 2 or 3-bbl. pumper. The well was bailed and not swabbed and the fluid in the hole was an accumulation of seven days. Some report the oil to be dead oil. Late reports from the field Monday said the well was standing with 400 feet of fluid in the hole. Whether it will be deepened or whether an effort will be made to produce the well at its present depth, could not be learned.

But because of the surprising shallow depth in which the oil sand was discovered Panhandle operators are following developments there with interest. The well is in rank wildcat territory and about 90 miles south of Amarillo.

Moore County Wildcat

Panhandle's latest wildcat producer, A. D. Morton & Co.'s No. 1 Reeder, SW NW NE, Section 191, Block 3-T, T. & N. O. Survey, Moore County, which was completed about 10 days ago at 3,373-79 feet as a 120-bbl. natural well, was again in the limelight during the week. The operators of the well decided to drill deeper into the pay horizon but after making a few feet of hole, and with no material increase in production, the tools were lost and a fishing job is delaying further operations. However, the well continues to head up every eight hours and is producing 90 bbls. daily.

The sand was penetrated 13 feet more from the original completion depth before the tools were lost. The present total depth is 3,393 feet. According to the driller's report the producing formation softened up to some extent the last 2 or 3 feet and the gas was increased slightly. It is estimated that the well would be a 200-bbl. well at its present depth. On June 23, the production was 92 bbls. and on the following day the well made 90 bbls. The oil is 33.7 gravity crude.

Production Declines

Production in the Panhandle declined 3,345 bbls. in daily average in comparison to the previous week's report from the field. The decline was generally attributed to the natural decline in old wells and the effectiveness of the drilling curtailment program started months ago. Only two counties showed gains, Moore and Wheeler, and both gains were slight. The daily average production for the Panhandle district is as follows:

	Bbls.
Hutchinson County	97,790
Carson County	10,375
Gray County	10,155
Moore County	75
Potter County	30
Wheeler County	2,455
Total	120,880

For the past few weeks completions from the various Panhandle pools have been dwindling in number and few of those completions have been wells with large initial production. A check-up by scouts at the first of the week showed only 188 wells drilling in the Panhandle of Texas and including several counties in the Panhandle of Oklahoma. Eight new locations were reported during the past week and 105 wells were shut down. With a greater demand for Panhandle crude, production could be increased sharply in the opinion of many major production men. Scores of wells in the field could be made to produce more by cleaning out. With the demand sluggish operators have ben reluctant to clean out old producers and increase their production maintaining it was more economical to store in the ground than produce and run the crude to steel storage.

Movement of Crude

Movement of crude out of Panhandle has been brisk recently with a sharp increase in tank car shipments and with the Gulf-Magnolia line and Humble line being operated to capacity. It is estimated that approximately 98,000 bbls. of crude was moved from the Panhandle during the past week. From June 12 to 19, both dates inclusive, 1,286 bbls. of crude was shipped out in tank cars from the following loading racks:

	Cars
Hale	18
Borger	701
Pampa	438
Panhandle	62
Amarillo	64
Kings Mill	3
Total	1,286

While the movement of the crude is considered as a betterment of conditions, pipe line companies are not seeking new connections aggressively. One purchasing company is reported as reluctant to take connections in Hutchinson County and more aggressively after connections in Gray County. It is reported the Gray County crude is a more desirable crude.

Only 15 new wells were completed in the producing Panhandle counties last week and 10 of those were in Hutchinson County. The largest of the wells was McMan Oil & Gas Co.'s No. 1 Cockrell (Martin), on the Cockrell ranch in southeastern Hutchinson County. That well had an initial production of 800 bbls. after a shot but was cutting water. The gusher brought in on that ranch by the McIlroy interests and which started the drilling in that area, is still holding up remarkably. The well produced better than 10,700 bbls. daily last week. It is 40 days old and has produced better than 10,000 bbls. daily since it was brought in.

Wells drilled near by have been small wells and the offsets to the gusher were far below the expectations of oil men. Few good wells have been completed in the McIlroy Pool since the gusher was brought in. The small wells have been cutting water. First National Oil Co.'s No. 1 Cockrell, Section 1, Block B-3, is being cleaned out and is spraying 15 bbls. per hour.

Wildcat Operations

Besides the wildcats mentioned, wildcatting was discouraged during the week. Marland Oil Co.'s No. 1 Carver, William Heath Survey, which showed for a producer some weeks ago, went into salt water in sand at 3,810-30 feet and is now shut down for orders. Empire Gas & Fuel Co.'s No. 1 Meers, Section 107, Block 3, in Gray County, swabbed 270 bbls. the first 48 hours from 3,110-16 feet. The well was deepened and drilled into fresh water. Both the oil and water was bailed dry and the total depth of the hole is 3,160 feet, steel line measurement.

W. G. Burton's No. 1 Stickler, Section 579, Block 43, which has been shut down at 3,910 feet for some time, was started up again and 5-inch casing set at 3,910 feet. The bailer was run and the test was dry, according to late field reports. Considerable interest was taken in the well when it was reported it had a showing of oil when shut down.

Of the late completions Phillips Petroleum Co.'s No. 4 Dorset, Section 64, Block 46, H. & T. C. Survey, was the best. The well was shot with 140 quarts at 2,660-2,710 feet and responded with an initial production of 500 bbls.

PANHANDLE COMPLETIONS

Carson County

Empire Gas & Fuel Co.'s No. 1 Burnett estate, C, Section 116, Block 4, was shot with 120 quarts in lime and granite wash at 3,108-70 feet and flowed 100 bbls. the first 24 hours. Roxana Petroleum Corp.'s No. 2 E. F. Bryan, C, Section 107, Block 4, was shot with 200 quarts in lime and granite wash at 3,170-3,221 feet and flowed and swabbed 35 bbls. initially. Roxana Petroleum Corp.'s No. 4 C. R. Garner, Section 106, Block 4, had the pay in lime and granite wash at 3,124-76 feet and was shot with 200 quarts to make an initial production of 225 bbls. flowing and swabbing. The Texas Company's No. 1 J. C. McConnell, Section 66, Block 4, in the McConnell Pool, flowed 320 bbls. the first 24 hours from granite wash at 3,218-35 feet.

Gray County

In the Wilcox-Pampa Pool, Wilcox-Pampa Oil Co.'s No. 18 Worley and Reynolds, Section 62, Block 3, swabbed 30 bbls. from granite wash at 2,840-2,915 feet. The well was the only completion in Gray County during the week.

Hartley County

Amerada Petroleum Corp.'s No. 1 Frances Farwell, Section 27, Block 16, was dry and abandoned at 3,745 feet.

Hutchinson County

Two wells north of the river in Hutchinson County were completed during the week. Golding Phillips' No. 2 J. T. Hodges, Section 1-A, Block 26, was plugged back from 2,890 feet and shot with 110 quarts at 2,816-40 feet. The well had an initial production of 100 bbls. on the swab. Phillips Petroleum Co.'s No. 16 J. J. Perkins, (Martin) Section 1, Block X02, topped the pay in lime at 2,955 feet and was drilled to 2,979 feet. The well was shot with 140 quarts at 2,927-77 feet and made 150 bbls. initially.

Eight wells were completed south of the river. Barnsdall Oil Co.'s No. 1-A J. A. Pritchard, Section 3, Block B-4, D. & S. E. Survey, flowed and swabbed 350 bbls. the first 24 hours after an 80-quart shot in lime at 2,865-93 feet. McIlroy Oil Co.'s No. 3 Cockrell, Section 4, Block B-4, was shot with 270 quarts in lime at 2,990-3,037 feet and swabbed 40 bbls. the first 24 hours, 1 per cent water. McMan Oil & Gas Co.'s No. 1 E. Cockrell, (Martin) Section 3, Block B-3, was shot with 310 quarts in lime at 2,790-3,037 feet and made 800 bbls. of fluid, 25 per cent water, the first 24 hours and 600 bbls. of fluid the second 24 hours. Navajo Oil Co.'s No. 1 E. Cockrell (Richardson), Section 2, Block B-3, topped the pay in lime at 2,920 feet and was bottomed at 3,064 feet. The well made 20 bbls. initially.

Phillips Petroleum Co.'s No. 6 Johnson Brothers (Graham), Tract 5, M. Whitley Survey, was shot with 90 quarts in lime at 2,953-85 feet, total depth 2,986 feet, and the well responded with 150 bbls. initially. Same company's No. 3 Johnson Brothers (Walling), Tract 6, M. Whitley Survey, was shot with 60 quarts in lime at 2,912-38 feet and swabbed 100 bbls. initially. Phillips company's No. 4 Johnson Brothers (Williams), Tract 7, M. Whitley Survey, was shot in lime at

(Continued on Page 129)

WILDCAT OPERATIONS IN PANHANDLE

Week Ending June 25, 1927

ARMSTRONG COUNTY

Company, Well, Farm Name, Section and Block—	Remarks—
Meadows et al's No. 1 E. D. Harrell, C Sec. 100, Blk. A-6, A. & G. Sur.	Rig.
United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 163, Blk. 4, H. & G. N. Sur.	Spudded and temporarily abd.

BRISCOE COUNTY

C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B. S. & F. Sur.	Fish., 1,600 ft.

CARSON COUNTY

Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y.	Temp. abd., 1,980 ft.
W. A. Gamble's No. 1-A John Dies, 30 ft N of cen., Lot 7, Blk. 11, Panhandle Townsite, Sec. 69, Blk. 2, T. T. R. R. Sur.	S.D., 1,045 ft. for casing.
Marland Oil Co.'s No. 1 Burnett-J, C NE NE Sec. 121, Blk. 5	Drlg., 3,165 ft; small spray oil 3,072-3,130 ft; salt water, 3,140-45 ft; dry granite wash, 3,245-88 ft; drlg., 3,320 ft.
Marston Oil Co.'s No. 1 J. L. Noel	Pulling 6-in., 3,064 ft.
Navajo Oil Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y.	8-in; 2,150 ft; S.D.
Stubblefield et al's No. 1 E. Cooper, SW cor. NE Sec. 5, Blk. 9, I. & G. N. Sur.	Drlg., 1,479 ft.
Vltek Oil Co.'s No. 1 J. H. Eller, NE cor. NW Sec. 200, Blk. 3	Skidding derrick 35 ft. south.
Vltek Oil Co.'s No. 1 C. R. Garner, SW cor. Sec. 113, Blk. 4, I. & G. N. Sur.	Drlg., 3,840 ft; 15,000,000 ft. gas; first gas, 2,795 ft. and 3,070-80 ft; show oil, 3,040-45 ft; S.D.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Siemons, SW cor. Sec. 78, Blk. M-17, B. S. & F. Sur.	Rig blown down.
Gulf Prod. Co.'s No. 1 Clements, SW cor. Sec. 27, Blk. M-10-A, Sealy & Morris Sur.	Top lime, 3,445 ft; set 6-in., 3,925 ft; drlg. red sandy lime, 4,178 ft.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE Sec. 333, Blk. M-6, S. K. & K. Sur.	S.D., 510 ft. for casing.

CHILDRESS COUNTY

Brookins et al's No. 1 Mrs. Givens, 600 ft N and W of SE cor. Sec. 676, W. & M. W. Sur.	Spudded and S.D.
Hoover & Calloway's No. 1 O. L. Tucker, Sec. 786, Haggard Sur.	Spudded and S.D.
C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	S.D., 3,000 ft.

(Continued on Page 84)

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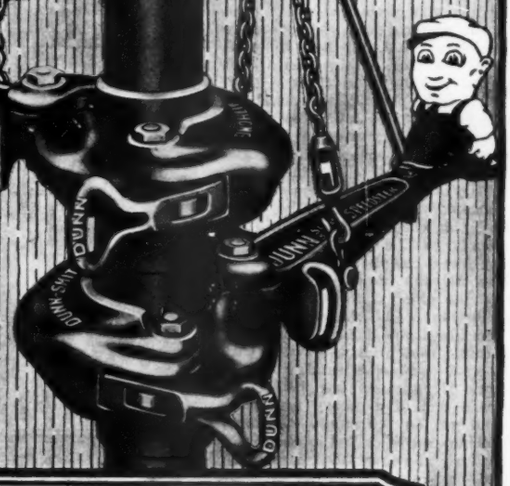

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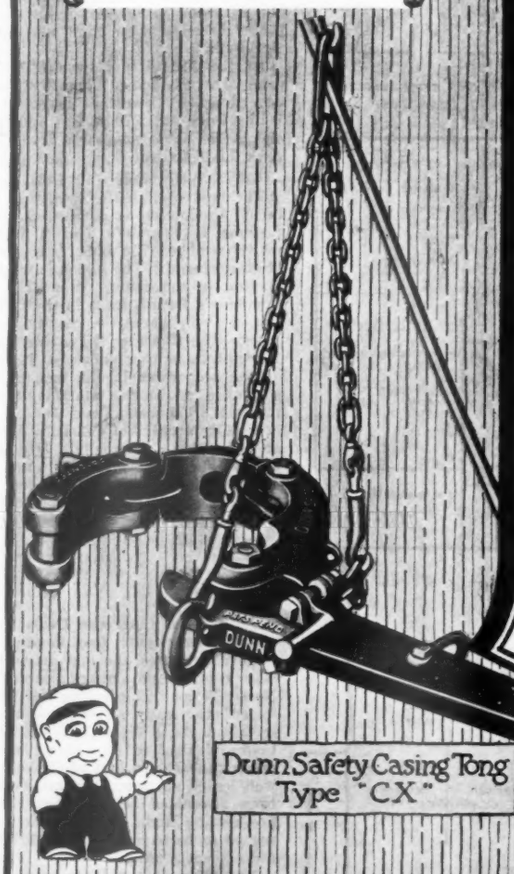

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Cooke County Important Texas Factor

Production Found at Shallow Depth With Wells Costing About $7,000 and Drilling Time Only Two Weeks

By C. D. Lockwood

FORT WORTH, Tex., June 27—Cooke County, situated just east of Montague along the Texas-Oklahoma line, is rapidly assuming the proportions of a highly important factor in the North Central Texas area. With the exception of a 10-bbl. pumper which was discovered near Callisburg in the eastern part of the county in November of 1924, the first commercial production was obtained in Cooke County just a little more than a year ago. During the past 12 months, however, as a result of the John Hooser and C. C. Lanier discovery west of Bulcher, six separate shallow pools and one gas area have been opened up and the county now has 106 oil wells and 2 gassers producing around 4,500 bbls. daily. The gravity of this crude also is high, averaging from 30 to 40 degrees. Some wells, too, have been completed for as much as 600 to 800 bbls. daily.

One of the chief factors in favor of this production is the shallow depth at which it is found, and the resultant small drilling cost. In the Hooser Pool where the principal producing sand is found at a depth of approximately 1,350 feet, the average cost of a rotary test, completed and put on the pump, is around $7,000. They can be drilled in about two weeks or less, allowing three days extra for cementing the 6-inch string, the only pipe used. A little more money may be required to drill to the 1,600-foot sand at Muenster and two or three days additional time may be required but the average initial production is still high considering the depth and drilling expense. The present average per well, including settled, semisettled and flush production is approximately 40 bbls. Although it is a little early to estimate declines, except in the Hooser and Bulcher Pool, they seem to be relatively slow.

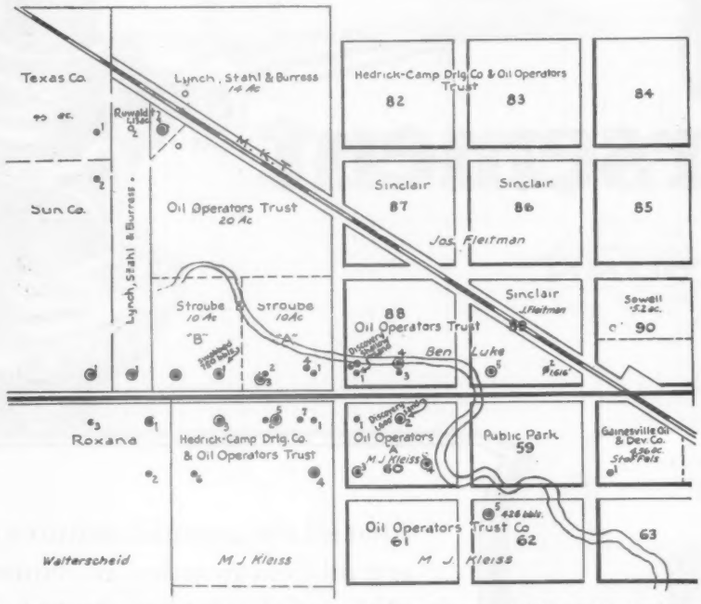
Four Production Sands

Cooke County has been referred to as "Another Archer County" by some of its admirers, but other more ardent Cooke County boosters believe it will be much better than Archer. Already, Cooke County operators have at least four different sands to shoot at, and a test located anywhere in the western part of the county is conceded to have a good chance of picking up some oil bearing sand at shallow depths. The eastern part of the county is not looked upon with so much favor by the operators as a whole because the depth of the objective sand is considerably greater. One company, at least, takes a different view and is playing the Callisburg area rather heavily, but the majority of wildcats are still located in the western half of the county. The Vacuum Oil Co. is the one most interested around Callisburg and is drilling its second test in the vicinity of the old Bud Davis producer of the Big Indian Oil & Development Co. which struck oil November 9, 1924, and is still pumping about 8 bbls. daily which is used for fuel in nearby drilling operations. The Vacuum's first test, No. 1 Kitchens, located just south of the old producer, was plugged and abandoned a short time ago at 4,310 feet. The new test, No. 1 Beckelman, located west of the producer, has just started up. The depth of the oil in the Big Indian well is 3,520 feet.

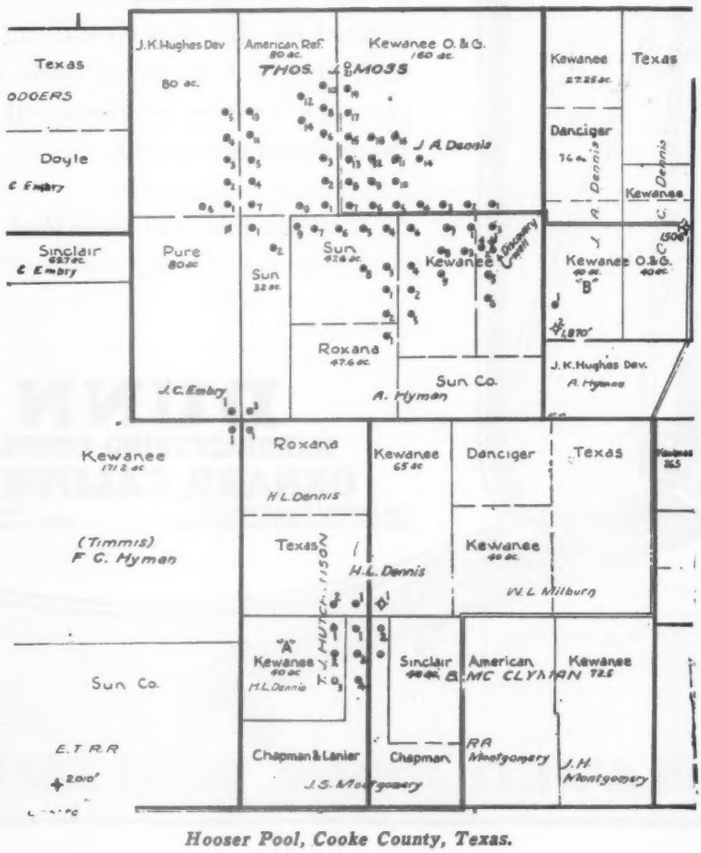
This part of Cooke County is in a general synclinal region while the western part is situated on a broad general high with an axis trending northwest and southeast. The Ellenburger lime (Ordovician) has not been reached in the Callisburg area at depths of 3,919 and 4,310 feet but it is found at depths less than 2,000 feet in the Muenster vicinity.

Geological Features

From a geological standpoint there is considerably more folding in Cooke County than in Archer. The pools so far developed seem to lie in lenticular sands on the flanks of this Ordovician high which runs from the Hooser Pool on the northwest to the Muenster area on the southeast. The axis of the high runs between the Hooser Pool proper and the Chapman-Lanier Pool 1 mile south and it is believed that the sand pinches out between these two pools. On the southeastern end, the axis is apparently just north of Muenster. Of course, less than 20 tests in the county have been drilled to the Ellenburger and some of these have furnished questionable data. Just south of Cooke County's southern line, Jenkins and others' No. 1 Waide, in Denton County drilled into granite at 1,882-1,912 feet.



Muenster Townsite Pool in Cooke County, Texas. Wells with circles are 1,600-foot producers, the others producing from 1,300 feet.



Hooser Pool, Cooke County, Texas.

Nearly every well drilled in Cooke County has been put down with a rotary and correlation of the logs is extremely difficult. One of the large concerns operating in the district and one which has been a heavy buyer of acreage during the past six months, has recently changed a number of correlations in the Muenster vicinity. The 1,350-foot sand in the Hooser Pool is believed to be equivalent to the 1,300-foot sand at Muenster but as said before these sands are lenticular and not enough drilling has been done to form any definite opinion.

The Lynch & Stahl Pool north of Muenster is about 75 feet higher structurally than the Muenster Pool and the two gas wells still farther north are about 50 feet lower than the Lynch-Stahl production, according to the best correlation available.

There are four separate horizons in the Bulcher area. The main producing sand in the Hooser Pool was the first one discovered having been found at 1,248-53 feet. Chapman & Lanier's No. 1 Montgomery at 1,310-18 feet found the second and Pure Oil Co.'s No. 1 Embry opened the third at 1,403½-08 feet. Gist & Grady's (Danciger Oil & Refining Co.'s) No. 1 Harris picked up the fourth sand at 1,751-53 feet. The value of the latter has not been tested as yet but it is expected to make some kind of a commercial well.

In the Muenster Townsite Pool two sands are producing. The first one was opened by Oil Operators Trust Co.'s No. 1 Ben Luke at 1,278-82 feet and the second by the same company's No. 2 Kleiss-A at 1,585-99 feet.

Well Made 750 Bbls.

The best well in the county so far as initial production is concerned has been Stroube & Stroube's No. 2 Koelzer-B which swabbed 750 bbls. from the deep Muenster sand. The highest gravity production in the county is on The Texas Company's Dennis lease in the Chapman-Lanier Pool, where the gravity is 40 degrees. The Kewanee Oil & Gas Co.'s No. 1 Dennis-A in this same pool is also one of the best wells in the county from a continued production standpoint, having pumped 9,171 bbls. from June 1 to 15 or a daily average of 611 bbls. Two wells on The Texas Company's Dennis lease pumped 10,504 bbls. in the same period or 700 bbls. daily between them.

Following is the total production of Cooke County by months this year:

	Wells	Total Dly. Av.	
January	49	33,139	1,069
February	58	34,132	1,219
March	74	44,733	1,443
April	84	60,480	2,016
May	95	96,720	3,120

Many Acreage Deals

During the past two months, Cooke County has been the one active spot in lease trading and acreage transactions in North Texas. The buying lull which affected practically all other areas except certain parts of West Texas did not reach Cooke County to any extent and as a result the western half of Cooke is pretty well leased up now. Several blocks have been assembled recently but the prices are getting high. Some traders are reported to be paying $10 and $15 an acre for wildcat stuff.

The time when a large block was necessary to drill a wildcat test in Cooke County is passing, however. As in Archer County, these pools are relatively small and a dry hole does not mean

(Continued on Page 121)

No plan for regulating production can be complete unless it admits the fundamental value of cracking

To fail to take into account the production-possibilities of this — the most efficient method known for obtaining the most gasoline from the crude — is to ignore one of the principal factors in the situation

For cracking is here to stay Those men on whose shoulders will rest the responsibility of saving the industry from its present flood of oil will do well to base their refining calculations on a steadily increasing percentage of Cracking

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Seminole Passes 410,000 Barrel Mark

Establishes New Record for Production. Well in Section 1-7-6 Looks Good. Pontotoc Gusher Excites the Trade

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

It has been one peak after another in Seminole in the past week. The 24 hours ending Monday, June 27, at 7 a. m. saw a production of 410,680 bbls. from 554 wells. Bowlegs, with 126 wells, was credited with 180,710 bbls.; Earlsboro, with 79 wells, 91,748 bbls.; Seminole City, 306 wells, 102,792 bbls., and Searight, 43 wells, 35,430 bbls. This peak exceeds that of Smackover in May, 1925, and the Smackover peak was purely an estimate while that of Seminole was based on actual pipe line runs from wells. The production of 406,047 bbls. meant no more, however, than that it was the biggest production Seminole had yet experienced. What the real peak is to be will be left for the future to demonstrate. The guessers are at it again and their estimates run all the way from 450,000 bbls. to over half a million.

The most interesting features of the news the past week came from Section 1-7-6 and from Section 21-5-6, the latter in Pontotoc County. In the NW cor. Section 1-7-6 the Indian Territory Illuminating Oil Co.'s test, which showed oil at 3,984 feet, was drilled to 4,017 feet and flowed 1,092 bbls. from 11 p. m. Sunday to 7 a. m. Monday of this week. The oil showed a gravity of 42.5 degrees at a temperature of 78. It is located in the northeast corner of the township that lies south of the Bowlegs Pool.

A Sensation in Pontotoc

In the SW cor. SE Section 21-5-6, Pontotoc County, T. B. Slick sprung a sensation on the trade with a well in the Hunton lime that flowed at the rate of about 5,000 bbls. a day from the 10-inch hole until the hole caved and shut off the production. The top of the lime was found at 2,555 feet and the big production came when the well had reached a depth of 2,693 feet. No provisions had been made for a big well and the oil flowed over the ground and much of it found its way down a near-by creek. The well was shut in later and when opened it made a 20-minute flow. It was opened again early Monday morning and flowed three and one-half hours, but the fluid was 15 per cent water and 15 per cent sediment. It was shut in again, which was its status at the close of this report. The well was drilled as a community proposition by a number of oil companies which on Saturday formed the Conservation Oil Co., an account of which will be found elsewhere in this issue.

New Seminole Wells

Wells continue to come in in the various pools making up the Seminole Field. The Tidal Oil Co.'s No. 1 B. Harjo, SW cor. NE, Section 25-9-6, got the Wilcox sand at 4,220 feet and at 4,233 feet was flowing 760 bbls. a day on air. The Gypsy Oil Co.'s No. 1 Noble, SW cor. NE, Section 12-9-5, made 1,475 bbls. in 18 hours from Wilcox sand at 4,365 feet, drilled in to 4,372 feet. The Carter Oil Co.'s No. 1 Payne, NW cor. SE, Section 12-9-5, flowed 1,535 bbls. in 10 hours from Wilcox sand at 4,205-15 feet. The Indian Territory Illuminating Oil Co.'s No. 12 Goforth, C NE SW NE, Section 13-8-6, was shot with 20 quarts and flowed 1,711 bbls. the next 24 hours. Prairie Oil & Gas Co.'s No. 2 Stidham, SE cor. SW NE, Section 11-9-5, flowed 3,190 bbls. the first 24 hours from Wilcox sand at 4,307-14 feet. Empire Gas & Fuel Co.'s No. 5 Lacey, SE cor. SW SW, Section 24-8-6, was shot with 10 quarts and swabbed 180 bbls. the following 3 hours. The Carter Oil Co.'s No. 3 Walker, C SE SW SE, Section 15-8-6, made 1,576 bbls. in 24 hours from sand at 4,070-85 feet. The Gypsy Oil Co.'s No. 1 Earl, C NE NE NW, Section 16-9-5, had a hole full of water from the second Wilcox at 4,366-72 feet. The Minnehoma Oil Co.'s No. 1 Bowlegs, C NE SW SW, Section 15-8-6, made 1,050 bbls. on air in 24 hours from Wilcox sand at 4,217-58 feet. Independent Oil & Gas Co.'s No. 3 Bruner, C SW SE NE, Section 10-9-5, flowed 2,345 bbls. in 13 hours from sand at 4,330-38 feet. Carter Oil Co.'s No. 6 Killing, C SW SE, SW, Section 14-9-6, had Wilcox sand at 4,318-44 feet and the well swabbed 410 bbls. a day. Carter Oil Co.'s No. 1 Hilly, C NE SE, Section 23-8-6, swabbed 470 bbls. from sand at 4,249-56 feet. The Empire Gas & Fuel Co.'s No. 1 Isaac Adams, in Section 3-9-5, which started at about 11,000 bbls. a day was down to 9,700 bbls. on Saturday.

Deepest Producing Well

Oklahoma's deepest producing well, Roxana Petroleum Corp.'s No. 1 McCulley, C SW NE SE, Section 30-10-4w, Logan County, was flowing 350 bbls. a day at last report from sand at 5,897-5,972 feet.

The Skelly-Twin State-Pure Oil community well, No. 1 Ramsey, SE cor. NE SE, Section 7-18-4, Payne County, was doing better than 1,175 bbls. partly pinched in.

John B. Nichols' gasser, in Section 35-5-8w, Grady County, is good for 63,000,000 feet from sand at 2,100 feet, total depth 2,450 feet.

Seminole Production

Seminole production for the 24 hours ending Saturday at 7 a. m. follows:

Bowlegs

Company and Farm—	Wells	Prod.
Amerada:		
Rasco	8	11,410
Atlantic:		
Baker	2	3,763
Fleet	2	3,136
Grayson	1	4,240
Jones	2	377
Barnsdall:		
McNac	1	115
Murrow	1	60
Carter:		
Bowlegs	2	4,650
Harjoche	4	4,400
Hilly	1	0
McGeisey	1	340
Walker	2	2,510
Wise	4	11,095
Empire:		
Lacy	4	6,945
Gypsy:		
Brown	1	85
Walker	6	4,895
Independent-Marland:		
Coker	1	1,240
Indian Territory Illum.:		
Billington	1	2,362
Davis	2	2,857
Goforth	9	12,192
Livingston	8	14,121
Walker	8	12,158
Wilmont	3	4,299
Work	1	1,679
Youngblood	3	2,442
McColloch:		
Bowlegs	1	1,135
Mid-Continent:		
Baker	2	2,778
Hutke	1	530
Minnehoma:		
Bowlegs	2	3,400
Prairie:		
Gahagan	2	1,950
Harber	3	5,295
Whitney	2	1,690
Pure:		
Reed	13	23,929
Roxana:		
Taylor	4	1,465
Shaffer:		
Lacy	2	2,130
Sinclair:		
Adam	1	40
Bowlegs	1	10
Ellen	1	2,275
Harjo	3	2,120
Jones	1	0
Taylor	1	2,395
Walker	2	3,950
The Texas Company:		
Reed	2	4,590
Tidal:		
Harjoche	1	1,565
Total	122	172,928

Earlsboro

Amerada:		
Anderson	3	5,495
Cowden	1	4,394
Barnsdall:		
Davis, D.	1	2,208
Davis, M.	1	0
Gibson	1	2,684
Peter	1	1,052
Sebolka	1	3,527
Smith	1	641
Payne	1	3,455
Crosbie:		
Bryant	1	2,710
Gypsy:		
Bora	1	105
Earl	1	98
McFarland	2	580
Peter	2	402
State	4	3,670
Strain	1	28
Noble	1	2,950
Independent:		
Knapp	1	1,702
Sullivan	1	2,374
Interocean:		
Payne	1	680
Magnolia:		
Bryant	2	4,987
Holmsley	1	5,689
Lena	1	2,311
Simpson	1	4,965
Sparks	1	5,675
Mid-Continent:		
McCumber	2	3,873
Phillips:		
Graham	5	2,595
Philmack:		
Dobbs	2	335
Prairie:		
Baker	1	50
Davis	1	2,300
Stedham	2	8,215
Sinclair:		
Foreman	1	0
Shallow production	30	3,850
Total	79	92,311

Seminole

Carter:		
B. Carter	2	195
J. Carter	4	45
F. Carter	1	495
R. Cudjo	4	1,955
W. Cudjo	1	375
Gilliland	1	515
Grisso, W.	8	1,440
Knapp	3	1,442
Killing, M.	10	13,525
Killing, G.	4	2,875
Lukes	6	3,195
Simpson	2	230
Strother	3	4,615
Vierson	4	940
Amerada:		
Fixico	4	1,693
Killing	4	622
Rentle	4	1,272
Atlantic:		
Cudjo, N.	4	895
Cudjo, J.	2	0
Barnsdall:		
Carter	9	4,422
Jones	4	1,557
Henry	1	60
Empire:		
Gross	2	2,136
Wilson	3	945
Gypsy:		
Butler	3	887
Carter	8	2,367
Cudjo	3	1,957
Fixico	5	165
Harjo	3	992
Wolf	7	437
Independent:		
P. Fixico	4	360
Harjo	1	335
Independent-Garland:		
T. Fixico	8	1,697
Independent-Interocean:		
Jones	4	862
Indian Territory Illum.:		
Bowlegs	10	4,018
Gooden	4	519
Harjo	4	748
James	4	566
Marcey	1	0
Reed	3	33
Kingwood:		
Johnson	5	2,326
Magnolia:		
Franks	3	1,412
Mid-Continent:		
Rentie	9	1,806
Tayeche	7	640
Mid-Kansas:		
Pressley	1	56
Johnson	1	607
Phillips:		
Strothers	3	772
Philmack:		
Butler	2	1,830
Prairie:		
Gross	5	65
Mason	1	1,400
Spencer	1	15
Strother	8	2,012
Pure:		
Strother, A.	17	2,699
Strother, B.	3	3,472
Roxana:		
Harber	2	468
Lashley	2	201
Sinclair:		
Carter	2	35
Cudjo, A.	6	1,285
Cudjo, B.	3	1,235
Dicey	1	595
Fixico	4	750
Slick:		
Born	1	0
Cudjo	3	1,526
Franks	8	1,084
Giblet	1	1,854
Superior:		
Cudjo	4	1,804
The Texas Company:		
Mayhue	1	24
Tidal:		
Carter	5	2,330
Fixico	8	1,610
Harjo, D.	1	1,885
Harjo, T.	7	215
Mahardy	5	1,140
Tayeche	2	1,885
Turman:		
Cudjo	4	1,110
Grisso	1	480
Jones	4	2,198
Total	306	104,100

Searight

Carter:		
Davis	5	7,780
Frazier	4	7,395
Kiker	1	40

DEEP WELLS IN EAST CENTRAL TEXAS FIELD TEST SALT WATER

By Special Correspondent

MEXIA, Tex., June 25.—Aside from salt water tests, the abandonment of Cranfill Brothers' No. 1 Nicholson, Bennett Survey in Kaufman County, at 3,257 feet and a showing of oil at 3,219-24 feet in Byrd and others' test on the Garrett farm, Boren Survey, in the Richland district, the East Central Texas area showed nothing of interest.

Production is dropping off steadily over the whole producing area. Mexia with 436 wells had a production for the week ending last Wednesday of 10,700 bbls. per day; Powell, 795 wells, production 16,900 bbls.; Nigger Creek, 73 wells, production 2,650 bbls.; Wortham, 277 wells, production 3,300 bbls.; Richland, 98 wells, production 900 bbls.; and Currie, 52 wells, production 725 bbls. Total 1,731 wells, 35,375 bbls. per day production, a daily average for the three counties of Limestone, Navarro and Freestone of about 20 bbls. a day per well. A year ago the same territory was producing approximately 52,000 bbls. a day and two years ago was producing over 112,000 bbls. a day.

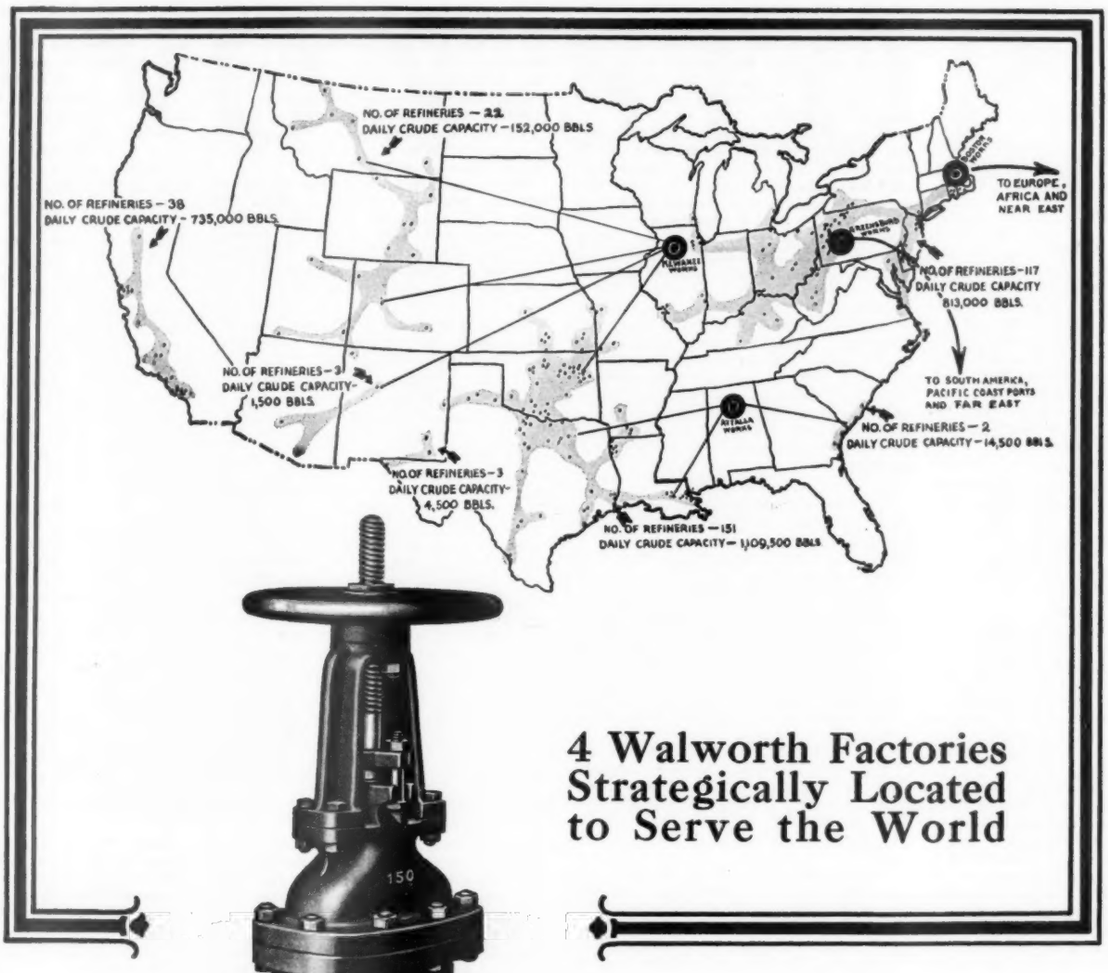
In Anderson County, Cosden and others' No. 1 Douglass, Simpson Survey, was drilling at 1,000 feet. Humble Oil & Refining Co.'s No. 2-A Southern Pines Lumber Co. was at a total depth of 4,446 feet with pipe set at 4,421 feet. The well was flowing 1,500 bbls. of salt water.

In Cherokee County, the Kirby Petroleum Co.'s No. 1 Conner, Sessions Survey, was drilling below 1,600 feet. The Humble Oil & Refining Co.'s No. 1 Reynolds Mortgage Co., Durst Survey, was reaming chalk, total depth 3,595 feet. The same company's No. 2 Earl & Ragsdale, Johnson Survey, was coring at 4,220 feet. The Magnolia Petroleum Co.'s No. 1 Summer, Brewer Survey, tested salt water in sand 4,328-34 feet, total depth 4,336 feet, and was last reported flowing salt water.

In Henderson County, the Henderson Oil Co. was drilling shale at 2,860 feet in No. 1 Perry, Susan Jones Survey.

The Amerada Petroleum Corp.'s No. 1 Walter, Hamilton Survey, tested salt water. Casing was set at 3,120 feet.

In Limestone County, the Pandem Oil Co. set pipe at 4,489 feet in No. 1-B Bassett, Walker Survey. Dillon & Hammond's No. 1 Fenner, Hoskins Survey, set 8¼-inch pipe at 2,887 feet and was shut down at 2,931 feet.


NO. OF REFINERIES – 22
DAILY CRUDE CAPACITY – 152,000 BBLS
NO. OF REFINERIES – 38
DAILY CRUDE CAPACITY – 735,000 BBLS
NO. OF REFINERIES – 3
DAILY CRUDE CAPACITY – 1,500 BBLS
NO. OF REFINERIES – 3
DAILY CRUDE CAPACITY – 4,500 BBLS
NO. OF REFINERIES – 151
DAILY CRUDE CAPACITY – 1,109,500 BBLS
NO. OF REFINERIES – 2
DAILY CRUDE CAPACITY – 14,500 BBLS
NO. OF REFINERIES – 117
DAILY CRUDE CAPACITY
813,000 BBLS.
TO EUROPE, AFRICA AND NEAR EAST
TO SOUTH AMERICA, PACIFIC COAST PORTS AND FAR EAST
KEWANEE WORKS
GREENSBURG WORKS
ATTALLA WORKS

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Company and Farm—	Wells	Prod.
Scott	1	40
Stewart	1	0
Gypsy:		
Cudjo	1	525
Mid-Continent:		
Grayson	6	4,880
Soloche	2	450
Prairie:		
Cannon	1	0
Garber	1	20
Houck	1	10
Kincaid	8	4,405
Wiemer	1	0
Pure:		
Aldridge	2	715
Roxana:		
Strother	1	3,469
Searight:		
Youngblood	2	0
Sinclair:		
Polly	2	2,670
Twin State:		
Cudjo	1	1,130
Wilcox:		
Chupco	2	2,544
Total	43	36,093
Grand total	550	405,412

Carter County

Magnolia Petroleum Co. is building the rig for No. 13 Adams, NE cor. SE NE Section 10-2s-3w. No. 1 Carter, SE cor. SW Section 14-1s-3w, came in for 50 bbls., producing from broken sands at 2,339-95 feet. No. 4 I. Bumpass, SW cor. NW SE Section 33-1s-3w, swabbed 50 bbls. from sand at 2,888-2,925 feet. No. 1 James Riley, NE cor. SW Section 17-2s-2w, had sand at 1,552-60 feet and made 50 bbls. the first day.

Caddo County

English Drilling Co. made location for No. 6 Abernathy, C NE SE Section 31-6-9w.

Comanche County

Green and others' No. 1 Wilson, C NE SW Section 14-1-12w, an old well, is drilling deeper at 2,500 feet.

Creek County

Magnolia Petroleum Co. made location for No. 30 Coker, NE cor. SW NW NW Section 16-18-7. Roxana Petroleum Corp. has the rig up for No. 1 Byrd, NE cor. NW NW Section 15-15-8. National Refining Co. has a machine at the location for No. 2 Futrell, SE cor. NE Section 1-19-9. Gled Oil Co.'s No. 1-A West, NE cor. SW NW Section 17-18-9, is drilling at 1,250 feet. Barnsdall Oil Corp.'s No. 1 Sneed, NE cor. NW NW Section 20-18-9, is a rig on the ground. The Texas Company has the rig on the ground for No. 1 Francis, NW cor. NE NW Section 20-18-9. Snowden & Curtis' No. 1 Johnson, SE cor. NE, Section 34-18-10, is drilling at 900 feet. Hemlock Oil Co.'s No. 1-A Thompson, SW cor. NW Section 35-18-10, is drilling at 860 feet. O. M. Irelan has built the rig for No. 1 Griswell, NE cor. Section 11-17-10. The Texas Company has the rig up for No. 1 Baker, NE cor. SE Section 14-17-10. J. H. Wright has moved the rig out for No. 21 Tahkaney, NW cor. NE NW Section 24-17-10. Andrews Drilling Co. has a machine at the location for No. 1 Hengst, SE cor. NW SW Section 6-17-12. C. G. Tibbens' No. 38 Unallotted, C N half S half Section 30-15-9, is drilling at 3,518 feet in the top of the Wilcox sand. Independent Oil & Gas Co. has the rig up to deepen No. 1 Wolf, SE cor. SW NE Section 18-14-10.

Smith & Mann's No. 1 Derrisaw, SW cor. NE Section 34-19-9, drilled to 2,775 feet and plugged back to the Layton sand at 1,390-1,425 feet where a 40-quart shot was made and the well then plugged. Pontiac Oil Co.'s No. 1 Fulsom, CNL NW SW Section 13-17-10, an old well deepened to 2,532 feet, and is producing 180 bbls. from the Dutcher sand at 2,475-92 feet. Curtis Oil Co. and others' No. 1 Thompson, SE cor. SW Section 23-16-10, is dry and abandoned at 2,720 feet. Mid-Continent Petroleum Corp. and others' No. 1 Jones, an old well drilled deeper, NE cor. SW Section 4-14-10, lost the hole at 3,290 feet and was abandoned. Mid-Continent Petroleum Corp.'s No. 1 Dean, SE cor. NE NE Section 13-15-7, is dry and abandoned in the Wilcox sand at 3,890-3,930 feet.

Garvin County

The Texas Company's No. 14 Derdeyn, NW cor. SE NE Section 17-1-3w, is making 11 bbls. from sand at 1,540-59 feet after being plugged back from total depth of 1,760 feet.

Grady County

Carter Oil Co.'s No. 3 Ray-Horton, NW cor. SE NW Section 8-3-5w, Carter-Knox Pool, is rigging up rotary tools. No. 1 Carter-Kerans, SW cor. NE SE Section 21-3-5w, is rigging up to deepen from 1,546 feet. No. 3 Cassie Kerans, NE cor. SE NE Section 21-3-5w, is rigging up rotary tools. The tools are being moved in for No. 2 Wall, SW cor. NW NE Section 21-3-5w. Location was made for No. 2 White, SW cor. SE SE Section 21-3-5w. No. 1 Miller, SW cor. Section 22-3-5w, is now rigging up to deepen from the old total depth at 1,397 feet.

Carter Oil Co.'s No. 4 Dryden, NW cor. SW Section 2-4-8w, was completed for 19,000,000 feet of gas in sand at 2,071-91 feet. No. 7 Walford, NE cor. SW SW Section 16-3-5w, Carter Knox Pool, is pumping 92 bbls. daily from sands at 1,773-83 feet and 1,818-29 feet. No. 8 Walford, SW cor. SE SW, Section 16-3-5w, had sands at 1,779-99 feet and 1,802-06 feet and is flowing 77 bbls. The Prairie Oil & Gas Co.'s No. 3 Russell, NW cor. W half SW NE, Section 21-3-5w, was completed for 350 bbls. naturally from sand at 1,807-13 feet. Carter Oil Co.'s No. 2 Adair, NW cor. SE NW, Section 27-3-5w, was drilled to 2,730 feet and plugged back to 1,771 feet. It was shot with 10 quarts and is swabbing 75 bbls.

Hughes County

Roxana Petroleum Corp. has a machine on the ground for No. 2 Amery, SE cor. NW Section 28-7-8, for a 1,100-foot test. Future Development and others abandoned the location for No. 1 Bruner, C SE NE Section 20-9-9. Carter Oil Co.'s No. 1 Long, SW cor. SE SW Section 11-8-9, is dry and abandoned in the Wilcox sand at 4,398-4,412 feet. Phillips Petroleum Co.'s No. 1 Washington, NE cor. Section 15-8-9, swabbed 6 bbls. from sand at 3,411-24 feet and was then abandoned. Independent Oil & Gas Co. and others' No. 2 Long, NW cor. Section 14-8-9, had a show of oil in sand at 3,403-72 feet, drilled to 3,900 feet and was abandoned.

Kay County

Junction Oil Co.'s No. 2 Roach, C SW SE Section 30-29-1, which is being deepened, has reached a depth of 3,386½ feet and is cementing back to test a show in the lime. Comar Oil Co. is rigging up to deepen No. 1 Orr, NW cor. SW NE Section 5-28-1w, Braman Pool. Charles Balph and others made location and dug cellar for No. 1 Rembe, C NE NW Section 29-27-1w.

Comar Oil Co.'s No. 15 Duncan, C SE SW Section 21-29-1w, North Braman Pool, was completed for 81 bbls. in sand at 2,087-94 feet. Arkansas Fuel Oil Co.'s No. 2 Moore, NW cor. SW SW Section 3-27-1w, an old well deepened, has been abandoned at 3,495 feet. National Refining Co.'s No. 1 Buessing "B," NW cor. Section 21-27-1, has been completed for 500,000 feet of gas in sand at 878-88 feet. Comar Oil Co., Gypsy Oil Co. and Marland Oil Co.'s No. 1½ Garrett, NW cor. SE Section 31-27-2, has been shut in for 3,500,000 feet of gas from sand at 587-96 feet. Wentz Oil Corp.'s No. 2 Harris, SE cor. NW Section 31-27-2, was shot with 10 quarts in sand at 2,458-81 feet and completed for 100 bbls. Barnsdall Oil Co.'s No. 1 Glasgow, NW cor. SE NW Section 6-26-1w, is dry at 3,785 feet.

Lincoln County

T. B. Slick's No. 2 Norton, NW cor. SW NE Section 7-14-4, is making 75 bbls. after being shot with 20 quarts in sand at 3,280-3,315 feet.

Logan County

Harris & Haun are rigging up rotary tools for No. 1 Ames, SE cor. NE Section 11-18-4w.

Garfield County

Roxana Petroleum Corp.'s No. 11-L Schroeder, NW cor. SE SW Section 18-22-3w, Garber Pool, swabbed 105 bbls. from the siliceous lime at 4,225-35 feet. O. O. Owens' No. 1 Semrad, SW cor. NE SW Section 7-20-6w, is plugged and abandoned at 3,420 feet. Sinclair Oil & Gas Co.'s No. 36 Walker (North), NE cor. NW NE Section 13-22-4w, an old well at the depth of 4,358 feet, was plugged back to the Layton at 3,693 feet and abandoned.

McIntosh County

John Aggas and others' No. 2 Perryman, CEL NW NW Section 11-12-15, is making 500,000 feet of gas from sand at 1,312-20 feet.

Muskogee County

J. O. Tilly's No. 1 Patterson, C NW NW Section 28-15-19, is drilling at 150 feet. Harry Smith's No. 6 Pouncil, NW cor. SE NE Section 25-15-15, was completed for 7,000,000 feet of gas in sand at 677-99 feet.

Okfuskee County

Champlin Oil & Refining Co. has the rig on the ground for No. 2 Ingram, NW cor. SW SW Section 14-11-11. Minnehoma Oil Co. has the rig on the ground for No. 1 Holmes, NW cor. NE NW Section 30-11-11. W. L. Umborn has moved

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MARSHALL COUNTY, KANSAS, TEST ENJOYED SHORT-LIVED INTEREST

By J. L. Dwyer
Staff Correspondent, Kansas Fields

A report from Marshall County, near the Nebraska line, that Graff and others' test in the NE cor. Section 4-4s-7e was showing oil at 1,810 feet caused a little stir in Kansas oil circles, but it was followed later by the authentic story that the well was showing nothing but water.

Vickers and others' test, SW cor. SE Section 11-9-16w, Rooks County, had a 10-bbl. showing at 3,202 feet.

Champlin Refining Co.'s test in Section 9-30-2w, Sumner County, swabbed 7½ bbls. a day from sand at 3,046-56 feet.

Carter Oil Co.'s No. 1, SW cor. Section 8-31-3w, found Wilcox sand at 4,357 feet, with an oil showing, but uncovered water at 4,362 and at 4,380 feet found a dry sand.

There was little of interest from the older fields, the completions having been of the routine order.

Barber County

Schaffer and others are rigging up at No. 1 Boggs, C SW, Section 19-33-12w.

Butler County

Empire Gas & Fuel Co. has the rig on the ground for No. 1 Lennerson, NE cor. SW, Section 34-27-5. Empire Gas & Fuel Co.'s No. 1 Hutchinson "B", SE cor. SW NE, Section 27-27-5, topped the sand at 2,730 feet, drilled to 2,774 feet and then plugged back to 2,768½ feet and after a shot of 40 quarts, made 75 bbls. Phillips Petroleum Co.'s No. 1 Henry, SE cor. SW NE, Section 4-27-6, drilled to 3,185 feet and then plugged back to 2,820 feet where it is producing 15 bbls. Richmond Drilling Co.'s No. 2 Brissey, NE cor. NW SE, Section 8-27-6, was completed for 175 bbls. in sand 2,770-77 feet. Phillips Petroleum Co.'s No. 1 Brissey, NW cor. NE SE, Section 8-27-6 is making 125 bbls. from sand 3,152-59 feet. No. 1 McGinnis, NW cor. SE NE, Section 9-27-6 has been abandoned at 3,173 feet. No. 1 McLean, NE cor. SE NE, Section 17-27-6 was completed for 40 bbls. in sand 3,113-18 feet.

Chase County

Phillips Petroleum Co. made location for No. 1 Preston, C NE NW, Section 31-18-7.

Cowley County

Morton & Boggs' No. 1 Eastman, NE cor. SE SW, Section 5-31-6 is spudding. Trees Oil Co.'s No. 1 Robison, SE cor. SW, Section 15-32-4 in the State Pool has set the 6-inch casing at 3,006 feet. McNabb and others made location for No. 1 Mattison, center of Lot 7, Block 43, Section 22-32-4. Mission Oil Co. made location for No. 1 Holt, Lot 10, Block 43, Section 22-32-4.

Imo Oil Co.'s No. 1 Graham, SW cor. NE, Section 10-32-4 State Pool, drilled to 3,434 feet, plugged back to 2,673 feet and was abandoned after shooting 40 quarts. White Eagle Oil & Refining Co.'s No. 1 Countryman, SE cor. SW, Section 33-32-7 was shot with 40 quarts in sand 1,922-56 feet and completed for 50 bbls.

Elk County

Wilcox Oil & Gas Co.'s No. 1 Barnes, SW cor. NW, Section 15-31-9, is drilling at 425 feet. Elmwood Oil Co.'s No. 2 Mills, CSL N half SW, Section 14-30-10, is dry and abandoned at 2,039 feet. Love & Watson's No. 1 McSpadden, CEL NW SE, Section 18-31-10, is a 17-bbl. well after it was shot with 10 quarts in sand 2,208-26 feet. Abel & Byington and others' No. 1 Ayers, NW cor. NE, Section 34-31-11, is dry at 2,030 feet.

Greenwood County

York State Oil Co. has built the rig for No. 3 Patterson, SE cor. NW NW,

(Continued on Page 127)

DRILLING CAMPAIGN PLANNED IN FARMINGTON, N. MEX., DISTRICTS

By Special Correspondent

FARMINGTON, N. Mex., June 25.—Preparations in progress for a spirited drilling campaign covering an extensive territory are the feature of the week's development. All wells that have been drilling are again going down after short delays caused by breakage of ditches or machinery. A disappointment was evident when the Midwest Refining Co.'s No. 2, in the Hospah district, came in a water well. However to offset the disappointment, the Continental-Santa Fe companies will resume drilling their deep test in No. 17 on the Rattlesnake structure the first of next week with their new rotary rig. At least 10 new wells will be started on the Proclamation strip as soon as permits are issued. Advertising of most of those permits are now under way. A number of these intend to go from 3,000 to 5,000 feet if production is not encountered at a shallower depth. Three rigs are reported to be going into the Blanco district within the next 30 days. The Portage Oil & Gas Co. will go to the Mesa Verde sand in a new location. To visit the new wells for which locations have been actually or tentatively made would require one to travel a distance of more than 300 miles which indicates the extent of the territory being tested.

Bloomfield District

The Mid-Continent Oil Co., operating in the Bloomfield district, NE SW, Section 14-29-11, on the Dollie Ransom tract, was compelled to shut down a few days on account of a break in the ditch that supplies water but drilling was resumed at a depth of 565 feet.

The Huerfano Oil Co., operating in the Bloomfield district, Section 25-29-11, struck another flow of water at 255 feet, so pulled casing and straightreamed down to that depth and has replaced the casing and resumed drilling.

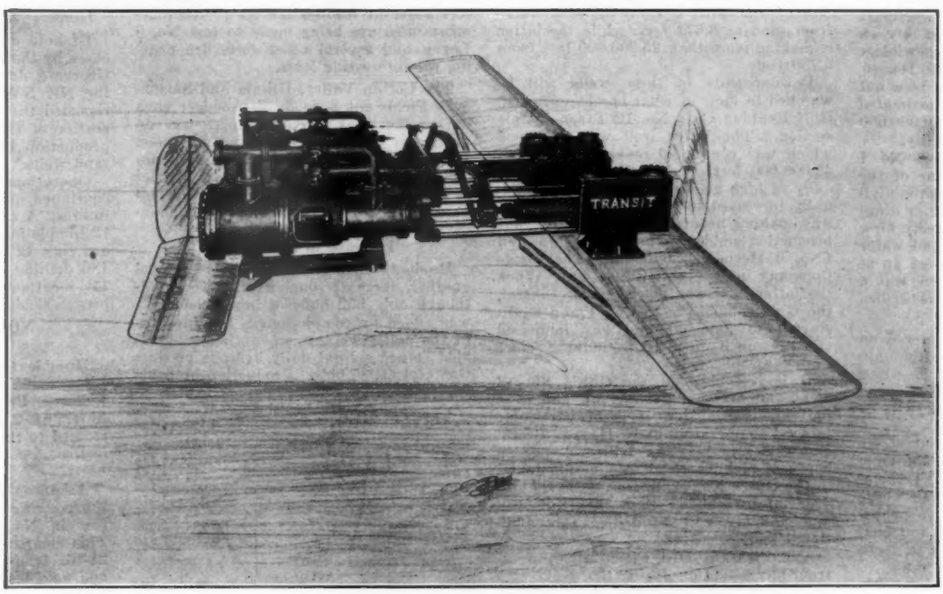
The T. C. N. Oil Co., operating in the Bloomfield district, Section 9-29-11, was delayed by the walking beam breaking but the broken piece has been replaced and it is drilling in a dry hole in a sandy shale formation showing considerable gas, at a depth of 755 feet. It has had two showings of oil and is feeling very confident.

The Portage Oil & Gas Syndicate is incorporating under the name of the Portage Oil Co. and moving its rig to a new location on the Glade structure in SW, Section 25-31-13, about 10 miles north of Farmington. It has purchased a new 40-horsepower boiler and new tools. This location is about 4 miles north of No. 1 which is producing about 500,000 feet of wet gas when let run, daily. The company is starting to test the Mesa Verde sand at this point.

The Midwest Refining Co., operating in the Hospah district, in well No. 2,

(Continued on Page 118)

NON-STOP



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Winn Parish Wildcat in Big Blowout

Develops Interest in Inland Salt Domes of North Louisiana as Possible Source of Gas or Oil

By Neil Williams
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., June 27.—Interest in inland salt domes of North Louisiana as a possible new source of oil or gas production in the Arkansas-Louisiana division was given a spurt late the past week when a rank wildcat on the Sikes Domes, Winn Parish, blew out making an estimated 8,000,000 to 10,000,000 feet of gas daily.

This wildcat, the Ohio Oil Co.'s No. 1 McCarty, Section 5-12-1w, is one of the most interesting developments in the division for some time. Reaching a total depth of 2,642 feet, it unexpectedly blew out, throwing considering mud and water over the derrick. Gas first showed up at a depth of 2,554 feet, where there was a small blowout, but the test was drilled on to its present depth.

At present operations are centered on getting casing set in the hole as the only casing so far is the 10-inch surface string set at 200 feet. Mud is being pumped into the hole and 6-inch casing will be set at 2,554 feet.

This test is the first important strike in that part of Winn Parish. The Ohio Oil Co. drilled another test, No. 1 Edenborn, Section 4-12-1w, one-half mile southeast of No. 1 McCarty, in which there was a small blowout at 1,480 feet, but this test was drilled on to a depth of 4,000 feet and abandoned as dry.

As the week closed there was considerable uncertainty as to the source of the gas and as to what might be expected. While the hole had been drilled to a total depth of 2,642 feet, it had been ratholed deeper and there is a possibility that the flow is considerably below the 2,642-foot level. Also of interest is the fact that, although the test is on a salt dome, no salt formations have been encountered so far.

Much attention has been centered on North Louisiana salt domes the past few months since the Humble Oil & Refining Co. got a showing in Cherokee County, East Texas, and several interesting tests have been started on these formations. With the exception of the Ohio Oil Co.'s well on the Sikes Dome, little of importance has been developed as to possible oil and gas production.

Ohio Oil Co. Features

Due to a coincidence, the Ohio Oil Co. has featured Arkansas and Louisiana operations for several weeks, first with its wildcat in Union County, Arkansas, No. 1 Crain, Section 1-17-14. The latter well has been one of the most interesting developments in Arkansas to operators of that state.

No. 1 Crain, which has been watched closely by operators for two weeks since it encountered an oil sand at 3,004-14 feet, was placed on the pump the past week and has been making around 50 bbls. daily of clean oil of better than 33 gravity. Pumping of clean oil in this well came as a surprise because, while the test was waiting on a standard rig, the hole stood around 1,200 feet of oil and 300 feet of salt water.

Virtually all available acreage in the vicinity of the well, which is 5 miles east of the East El Dorado Field, has been cleaned up. Most of this has gone to El Dorado operators although the Ohio Oil Co. has more than 10,000 acres blocked in that district. Several other tests have been started in the vicinity of the Ohio well and indications point to an active wildcat play in that district.

Pine Island Gas Wells

The bringing in of two good gas wells from the deep sand in the Pine Island Field of Caddo Parish, Louisiana, was an interesting development of the week. These wells were Haynes Brothers' No. 1 Murray and Gulf Refining Co.'s No. 13 Tyson, both in Section 14-21-15. The former was completed making 20,000,000 feet of gas with a spray of salt water from sand at 3,671 feet, while the latter is making more than 25,000,000 feet from 3,730 feet.

Developments in these wells will be watched in view of what has happened in Gulf Refining Co.'s No. 12 Tyson in this section. The latter well was the one which was completed making more than 42,000,000 feet of gas and about 12 bbls. daily of high gravity oil. The well gradually increased in oil production until it was making around 400 bbls. daily, but production suddenly stopped when a well (No. 5 Herndon) drilled by The Texas Company in this section blew out. When the latter well was placed under control, the Gulf company's No. 12 Tyson again started to flow oil and has increased steadily until now it is making more than 800 bbls. daily.

It is possible that the Gulf's No. 13 Tyson might start flowing oil, and it is for this reason that it is of particular interest to operators here. Haynes Brothers well also may be drilled deeper in hopes of picking up oil production found in the Gulf's No. 12 Tyson. It is slightly over 50 feet higher than the Gulf well and possibly will be drilled this additional footage.

The Pleasant Hill Field failed to attract any attention during the week, with operations there more or less routine. There were no new wells there, but as the week closed Arkansas Fuel Oil Corp. was setting the liner to test No. 1 Williams, Section 33-10-12, which is in a broken formation from 3,145-3,229 feet. This company's No. 8 Logan, same section, is swabbing, it being in a broken formation at 3,175-3,228 feet. Arrangements also are being made to test No. 9 Logan and several other tests are nearing the interesting level.

The Cotton Valley, Urania and Smackover Fields got a good oil producer each during the week, although there was no particular significance to any of these. In all, 12 wells were completed or abandoned in the North Louisiana district during the week, of which 5 were oil producers, 3 gas wells and 4 abandonments.

Increase in Production

Production in the district registered another increase during the week, although only 652 bbls. of new production was added by completions. The increase in the daily average, amounting to 1,085 bbls., made a total daily average production of 162,985 bbls. Production by fields was:

North Louisiana

Caddo light	10,000
Caddo heavy	5,595
Homer	5,070
Haynesville	7,850
DeSoto-Red River	4,135
Elm Grove	715
Bellevue	1,330
Cotton Valley	5,755
Urania	8,865
Pleasant Hill	575
Total	49,890

Arkansas

El Dorado	6,205
Lisbon	3,790
Smackover light	11,155
Smackover heavy	88,935
Stephens	1,405
Nevada	1,465
Bradley	140
Total	113,095
Total both states	162,985
Total last week	161,900
Increase	1,085

Of note during the week was the purchase by the Lion Oil & Refining Co. from George & Jones of their Murphy lease in the NE NW, Section 18-16-15. It was reported the deal involved a cash consideration of $15,000. There is 45 bbls. daily production on the lease from four first sand wells.

Operations in general in this division continued quiet, with only few points of interest. A summary of operations showed 12 completions, 10 wells waiting on standard rigs, 12 wells temporarily abandoned, 186 drilling, 15 rigs up, 28 derricks and 11 locations. Detailed operations in proven fields were:

NORTH LOUISIANA

Bossier Parish

Humble Oil & Refining Co.'s No. 30 Bliss & Weatherbee, Section 15-19-11, Bellevue Pool, tested dry with a sand tester at 2,685 feet. It now is being reamed to the bottom of the hole at 2,721 feet.

Caddo Parish

Arkansas Natural Gas Co. has set a short string of 4½-inch casing at 2,380 feet in No. 8 Gayle, Section 30-16-12. This company's No. 2 Lane, Section 13-21-15, is drilling at 500 feet. Askew and associates' No. 1 Elliott, Section 12-19-16, is in a red shale at 2,565 feet. J. R. Bahan's No. 3 Stringfellow, Section 19-17-16, Waskom Field, is in chalk rock at 1,910 feet. Bayou State Oil Corp. has cemented 6-inch casing at 1,027 feet in No. 30 Moss, Section 23-22-15. Dixie Oil Co.'s No. B-5 Files & Mabry, Section 14-21-16, is down 2,456 feet. This company's No. 8 Fitzsimmons, Section 14-21-15, is down 3,400 feet. The same company's No. A-2 Noel, Section 13-21-15, is at a total depth of 3,853 feet with 6-inch casing reset at 3,848 feet.

Dobson and associates' No. 5 Rives, Section 5-20-16, is shut down waiting on a standard rig at a total depth of 1,855 feet. Falcon Drilling Co.'s No. 1 Schmidt, Section 27-20-15, is drilling at 1,830 feet. Gulf Refining Co.'s No. 269 Ferry Lake, Section 29-20-16, is in sandy lime and shells at 2,797 feet. This company's No. 13 Tyson, Section 14-21-15, is drilling gray sandy lime and shells at 3,719 feet. B. A. Hardy is fishing for the drill stem in No. 2 Angurs, Section 6-16-16. Total depth of this hole is 1,535 feet. He is down 400 feet in No. 1 Bickham, Section 23-18-16, in which 10-inch casing was cemented at 114 feet. His No. 1 Hammock, Section 27-18-15, blew out from a sand at 892-96 feet, and is making an estimated 25,000,000 feet of gas and 1,000 bbls. of salt water. In No. 1 Wheeler, Section 18-18-16, a sand at 974-86 feet is being tested. The 8-inch casing was cemented at 831 feet.

Haynes Brothers' No. 1 Murray, Section 14-21-15, has been completed making an estimated 20,000,000 feet of gas and a spray of salt water from a total depth of 3,671 feet. Lewis Oil Corp.'s No. 18 Raines, Section 22-21-15, is pumping 6 bbls. daily from a depth of 1,648 feet. Magnolia Petroleum Co. has a derrick up for No. 2 Bryson, Section 8-17-16. This company is waiting on a standard rig for No. 4 Caldwell, Section 24-21-15, with the total depth at 1,620 feet, and also for No. 16 Dillon, this section, whose total depth is 1,750 feet. Magnolia Pe-

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TWO TESTS IN CARTERVILLE AREA; RESUMING WORK IN RICHLAND

By Neil Williams

SHREVEPORT, La., June 27.—With two wildcat strikes, the Ohio Oil Co.'s 50-bbl. pumper in No. 1 Crain, Section 1-17-14, Union County, Arkansas, and the same company's gas blow in No. 1 McCarty, Section 5-12-1w, on a salt dome in Winn Parish, Louisiana, holding the attention of operators, other wildcat operations in the Arkansas-Louisiana division were placed considerably in the background.

However, two in the Carterville area of northern Bossier Parish are expected to be tested soon. These are Estes and associates' No. 1 Bodcau, Section 15-23-12, which is an old well deepened to the gas sand level in this field, and W. R. Ramsey's No. 1 Dodson, Section 16-23-12.

While this district has been given up pretty generally as a possible oil field, it is anticipated there will be an interesting gas play there, especially since the Magnolia Gas Co. already has started the laying of a 12-inch welded line to the field. This line will furnish the first outlet for Carterville gas. The line will be 12 miles long, connecting with the company's main line from the Sarepta Field.

Richland Parish

Operations again are getting under way in Richland Parish, which has been in a complete shutdown because of floods. Ruston Drilling Co. a week ago completed No. 1 Earle, Section 5-16-6e, flowing 20,000,000 feet of gas and now Gulf Refining Co. is to resume drilling in two interesting tests, No. 2 Rhymes, Section 5, and No. 2 Seibert, Section 11-16-5e. The former is down 2,880 feet, where it had a gas blowout, but is passing up this gas to test deeper formations.

Two interesting wildcats met with disappointment the past week when Rue and associates' No. 1 Elias & Williams, Section 10-7-4w, Grant Parish, Louisiana, tested dry in a sand at 2,096-2,104 feet, and Allison and associates' No. 1 Howard, Section 8-19-13, Union County, Arkansas, tested salt water sand at 2,717-25 feet.

Two wildcats were abandoned as dry, one in Bienville Parish and the other in Winn Parish. Tunica Petroleum Co.'s No. 30 L. & A., Section 34-16-7, Bienville Parish, was dry at 2,027 feet, while Humble Oil & Refining Co. abandoned as dry at 1,505 feet No. A-23 L. & A., Section 3-10-2w, Winn Parish. The latter test was the last 23 contracted to be drilled on that block.

Detailed wildcat operations during the week were:

NORTH LOUISIANA

Bienville Parish

Tunica Petroleum Co. has abandoned as dry at 2,027 feet its No. 30 L. & A., Section 34-16-7. Operations in other Bienville Parish wildcats are at a standstill.

Bossier Parish

Estes and associates are setting 4½-inch casing at 3,088 feet in No. 1 Bodeau, Section 15-23-12, Carterville district. In Section 21, Magnolia Petroleum Co. has a location for No. 1 Rogers. W. R. Ramsey has cemented 6-inch casing at 3,082 feet in No. 1 Dodson, Section 16. He has seven feet of sand at 3,093 feet. In No. 1 Robertson, Section 22, he is arranging to drill out the cement after plugging back to the 8-inch casing cemented at 3,087 feet. Walter and associates have set 12½-inch casing at 100 feet in No. 1 Antrim, Section 28-22-13. Tubbs and associates are arranging to

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Core Sand in Kingsville Field Well

Four Gas Wells and Seven Oil Wells Completed in Southwest Texas During Week. New Production 237 Barrels

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., June 27.—Four gas wells and seven oil wells were completed in the various fields of Southwest Texas the past week adding 87,000,000 feet of gas to the developed supply of Southwest Texas and 237 bbls. to the initial oil production of the fields. Two of the wells in the Laredo territory were each for 100 bbls. The entire bunch of completions were without unusual feature. Killam's No. 2 Bruni in Block 65 of the Albercas grant at 2,187 feet is a 5,000,000-foot gas well. This is in an area to the east of the Aviator Pool about four miles where a new producing spot was opened a few weeks ago with a well of much bigger proportions than No. 2.

In the Adams Gas Field in Medina County Witherspoon Oil Co. brought in a 2,000,000-foot gas well in its No. 1 Bader which is about 800 feet east of the nearest gasser in the field, and the size of the well indicates that development has gone in that direction about as far as it can expect to go. Total depth is 1,098 feet, which is a little deeper than other wells farther west in the field. At the west end of the Adams field Witherspoon is drilling three wells, one a west offset to the wild gas well that has been making water and gas for more than a month.

In the Kingsville Field all interest is in the Humble-Gulf No. 1 Dennett in Block 18 of Section 38, which at 2,121-31 feet had cored 11 feet into a sand carrying oil and was beginning to look like a well. Wells a little over a quarter mile to the east had some oil at the same depth and at 2,235-78 feet are producing oil wells. This well is logging seemingly with the other wells and is of especial interest due to the fact that the field has seemed erratic and notable for its lack of uniformity and No. 3 Kleberg, drilled a little south of a line between this well and the other four, failed to get this sand and was abandoned dry at 4,000 feet.

MIRANDO COMPLETIONS

Webb County

Columbia Petroleum Co.'s No. 14 Puig, Aviator Field, Block 77 of Edgington Subdivision of Puig Brothers Ranch, was brought in at 1,780 feet making 100 bbls. of oil daily.

O. W. Killam's No. 2 Bruni, Block 65 of the Bruni Subdivision of Las Albercas grant in the Albercas Gas Field, at 2,187 feet was brought in gauging 5,000,000 feet of gas daily.

Duval County

Cole Petroleum Co.'s No. 45 Benavides, located in Block 2 of Survey 22, at 1,590 feet with a rock pressure of 490 pounds, gauged 50,000,000 feet of gas daily.

Jim Hogg County

Edward St. Albans No. 8 Lopez, located in Share 1, Block 7 on the extreme northeastern edge of the K. & S. Field, at 2,134 feet was completed making 80 bbls. daily.

New Location

Columbia Petroleum Co. is skidding derrick over from No. 14 Puig, completed this week in the Aviator Field, for No. 15 Puig, location to be announced next week.

SAN ANTONIO COMPLETIONS

Atascosa County

Grayburg Oil Co.'s No. 16 Shaw in Survey 278 of the Somerset Field, at 1,230 was completed an average well of 8 barrels.

Gonzales County

L. P. Unkel's No. 1 Johnstone in the C. H. Jaegar Survey at 214 feet has been completed pumping one-quarter bbl.

Bexar County

Grayburg Oil Co.'s No. 29 Caruthers, Survey 377 of the Somerset Field, has been completed an average well of 8 bbls., and No. 36 Ernest, in Survey 366 of the same field, has been completed making 10 bbls.

Milam County

F. Caudley's No. 3 Luetge in Chambers Survey has been completed a small well.

Medina County

Witherspoon Oil Co.'s No. 1 Bader, in the Adams Gas Field, at 1,096 feet gauged 2,000,000 feet daily.

Live Oak County

Houston Oil Co.'s No. 1 Dunning, located in Kivlin Survey, has been completed an average gasser of the field of 30,000,000 feet.

TESTS ABANDONED

Mirando Territory

O. W. Killam's No. 1 Billings, a deep test located in Survey 43 of Webb County, has been abandoned at 4,100 feet.

San Antonio Territory

Frio County

P. A. Neilan's No. 1 Blackaller, James Gouley Survey, has been abandoned at 3,005 feet due to bad fishing job.

Medina County

Witherspoon Oil Co.'s No. 2 Nixon, Survey 119, Adams Gas Field, the wild gasser which blew in at 940 feet, has been abandoned.

Fennell & Williams No. 2 John Fohn, a wildcat test in Survey 115, has been abandoned dry at 1,875 feet.

McMullen County

Dodson and others No. 1 Franklin, Survey 31, which has been shut down since the first of the year, has been abandoned.

Houston Gulf Gas Co.'s No. 5 Jacob, J. Rees Survey, standing since the first of the year at 940 feet, has been abandoned at that depth.

George M. Ball's Kuykendall, Block 7, standing since the first of the year, has been abandoned at 1,390 feet.

Milam County

Noack & Laning's No. 2 Rowland Rockdale Field, Milam County, has been abandoned dry at 1,411 feet.

Noack & Laning's No. 1 Dymke, William Allen Survey, has been abandoned dry at 1,401 feet.

Coffield & Hale's No. 1 Alford, north of Rockdale, has been abandoned dry.

Kent & Middleton's No. 1 Arnold, southern extension of the Rockdale Field, has been abandoned dry.

Fritz Fuchs No. 3 Hudson, Rockdale Field, has been abandoned a dry hole.

NEW LOCATIONS

Atascosa County

Grayburg Oil Co.'s No. 14 Ed Wells, J. R. McKinney Surey, 1,500 feet to west line and 3,400 feet to north line, is drilling at 1,930 feet and will go to the chalk.

Bexar County

Grayburg Oil Co.'s No. 38 Ernest, Somerset Field, had derrick blown down recently and this is being rebuilt.

Caldwell County

The Texas Company's No. 1 Beatty, Nicholas Kelly Survey, 500 feet to southeast lines and 150 feet to southwest lines of farm, is rigging up.

Goliad County

Houston Oil Co.'s No. 1 J. F. Lott, G. Cortinas Survey, 2,000 feet to north line and 300 feet west line, is location.

Gonzales County

The Texas Company's No. 1 Plowman, Byrd Lockhart Survey, 631 feet to southeast line and 3,562 feet to northeast line of survey is drilling at 175 feet with surface casing set at 170 feet, using coring machine. Test had salt water flow at 80 feet.

Gonza Petroleum Co.'s No. 1 Sinclair, located 4 miles northeast of No. 2 Elder, is drilling at 1,200 feet.

Kleberg County

Houston Oil Co.'s No. 1 Kissman, Block 9, Section 41, is location with derrick material ordered out.

Medina County

Western Gas & Fuel Co. and Medina Syndicate's No. 3 Chandler, is location 200 feet to north line and 1,400 feet to west line of lease, and is moving in rig.

Refugio County

Houston Gulf Gas Co.'s No. 4 Shelly, Refugio Gas Field, is fishing at 2,100 feet.

Blanco County

Miller Creek Drilling Corp.'s No. 1 Glasscock, W. M. McDonald Survey No. 50, located 150 feet to CEL, is location with the elevation 1,440 feet.

Cole Gas Field—Duval

Cole Petroleum Co.'s No. 38 Benavides, Survey 10, Block 12, located 155 feet to northeast and northwest lines, has derrick up; No. 45 Benavides, Survey 22, Block 2, located 450 feet to southwest and southeast lines, has sand at 1,584-90 feet. Maddox and others' No. 1 Bruni, Survey 1, Mariano Arispe grant, east 40 acres, Survey 133, is location 150 feet to northeast and southeast lines. Houston Oil-Sun Oil Co.'s No. 4-A Benavides, Blocks 405-406-411-412, has been spudded in. Houston Oil-Roxana's No. 1 Bruni, Survey 11, Block 18, is location 150 feet to northwest and northeast lines. Newton Drilling Co.'s No. 1 Bruni, Survey 9, is location 500 feet to northwest lines and 150 feet to northeast lines. Trusell, Cezaux & Putman's No. 1 Brun is location in Survey 10.

Piedras Pintas Salt Dome

Humble Oil & Refining Co.'s No. 6 Walsh, Survey 185, located 364 feet northwest of No. 4, is finishing.

Randado Field—Jim Hogg

Magnolia Petroleum Co.'s No. 23 Merchants State Bank, Survey 415, located 1,070 feet to east line and 1,200 feet to north line, has a sand at 1,231 feet and set casing.

Kitselman & St. Albans

Edward St. Albans' No. 8 Lopez, Share 1, Block 7, located 1,058 feet to south line and 974 feet to west line, has set casing at 2,135 feet, at which depth test cored sand. K. & S. Corp.'s No. 57 Holbien, Survey 17, Block 40, located 330 feet to NE cor., is drilling at 2,825 feet.

Alworth Pool

Magnolia Petroleum Co.'s No. 22 Merchants State Bank, Survey 236, located 450 feet to west line and 150 feet to south line, is drilling at 2,735 feet. Alworth Brothers' No. 13 M. Garza, Survey 39, Block 6, located 150 feet to southeast lines and 450 feet to southwest lines, has rigged up, but has been delayed spudding in by rains.

Schott Field—Webb

Laredo Oil Co.'s No. 13 Killam, NW NE SE, Survey 457, located 150 feet to west line and 175 feet to north line, has been rigged up.

Albercas Field

O. W. Killam's No. 2 Bruni, Block 65, located 1,470 feet to south line and 470 feet to east line, is testing at 2,187

(Continued on Page 117)

DEEPEST TEST IN STATE OF TEXAS NEARING THE 7,000-FOOT MARK

By B. D. Stevenson

SAN ANTONIO, Tex., June 27.—The deepest test in all Southwest Texas and one of the deepest in the state of Texas is attracting probably the least attention. The United North & South's No. 1 Kelly in the Luling Field in Caldwell County is now down below 6,950 feet and at the rate of progress will be 7,000 feet deep in another week or so. It has been in schist since at about 4,700.

Southwest Texas wildcats are never without their interesting features. George B. Pickett's No. 1 Jacob in McMullen County completed the contract depth at 3,000 feet but to make it good measure drilled to 3,030 feet and a nine-foot core taken at that depth shows a trace of oil. Hence it is continuing to drill and make hole and if the showing improves will test. The formation is of such a nature as is found at the base of the Cook Mountain or top of the Mount Selman and while the Cook Mountain is producing farther to the east it is not producing in any Southwest Texas field which makes it more interesting. The well is in Survey No. 7 and a few miles north of the Calliham Field.

In Gonzales County the L. P. Unkel No. 1 Johnson near Slayden at 214 feet is reported to be a small well. There is a little shallow oil in that part of the county and at periodical intervals reports come in of wells being completed. It is 10 miles or so southeast of the Luling Field and if this well has run into a spot where a commercial well will result a little later developments will prove it.

The Bruner well on the Davis farm, one mile north of the town of Luling in Caldwell County in the base of the Austin chalk at 2,557 feet total depth, has been pumping for a week. The Austin chalk has been repeatedly tested in this territory and frequently has a showing of oil but has never made a commercial well. The owners of this well believe they have a little better production than anything yet and hope by drilling into the Eagle Ford a short distance to increase the production sufficiently to make a commercial well.

Rycade's No. 1 Chittim in Maverick County, still the most interesting test among the wildcats in Southwest Texas, is still wrestling with a fishing job at 5,592 feet where it has 28,960,000 feet of gas and an estimated 75 to 100 bbls. of oil mudded off in the Trinity sand. Everything is out of the hole except the bit. Southwest Texas is much interested in seeing the outcome of this well as evidencing what the Trinity sand will do. Rycade has all the acreage around the test for a big spread and the interest of the rest of the industry is solely on the demonstration of the possibilities of the Trinity sand and what it might be expected to do on other structures.

Heavy rains all through Southwest Texas the past week have delayed wildcat as well as proven territory operations but have filled up earthen tanks which have been the industry's chief reliance for water for operating purposes.

Duval County

Schlessinger Oil Corp.'s No. 2 Hahl, Survey 60, is location 330 feet to north line and 1,650 feet to east line. National Oil Co.'s No. 1 Ball, Ball ranch, Survey 16, located 450 feet to north line and 150 feet to east line, had derrick blown down and is being rebuilt, and machinery is also being moved in. Humble-Reiter-Foster's No. 6 Kohler, Survey 400, located 60 feet to west line and 660 feet to south line, is drilling at 2,291 feet. Humble Oil & Refining Co.'s No. 2 Welder-Woods, Survey 102, located 5,280 feet to south line and 4,500 feet to east line, is drilling at 1,893 feet.

(Continued on Page 114)

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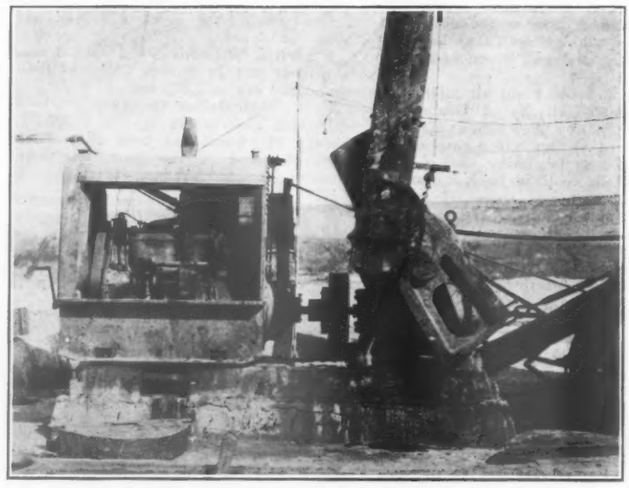
Using a Lufkin Unit powered with an 80 H.P. Buda Engine, the Simms Oil Company just completed drilling their 2,200 ft. well at Odessa, Texas.



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New Saline Dome Found in Louisiana

Gulf Refining Co. Opens Territory in Iberville Parish. New Production Greater But Average Output About Same

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., June 27.—New production developed in the Gulf Coast division during the week ending June 25 took a spurt, aggregating 11,500 bbls. as compared with 2,840 bbls. during the previous seven-day period. The deep sands at Spindletop furnished 6,800 bbls. of the gross and estimated daily average there for the week is 62,000 bbls., or 3,400 bbls. per day increase over the average for the month to date.

From the deep sands on the northwest side of the Pierce Junction came 3,300 bbls. in addition. The old Jennings (La.) Pool surprised the trade with a 500-bbl. well completed late in the week on the northwest side at 1,600 feet. It is a worked-over hole. The Pierce Junction well extends the deep sands 1,000 feet north and east in the direction of the original production on the east side of the dome.

The completions during the week totaled 23, of which 5 bailed salt water and 3 were dry, leaving 15 producers. Five wells were bailing at the close of the week.

The Boling and Long Point Domes have turned out to be largely sulphur propositions and a deal has been closed between the Gulf Oil Corp. and the Texas-Gulf Sulphur Co. whereby the latter will take them over and operate for the sulphur deposit. The deal provides that the Texas-Sulphur Co. shall take over and develop any other domes discovered by the Gulf corporation's subsidiaries and develop them commercially.

The Boling Dome in Wharton County was opened as an oil pool in December, 1925, The Texas Company getting a well on the Taylor lease on the south flank. Much development work was done on the south, east and west flanks and the production average 8,800 bbls. per day late in March, 1926. By the end of the year it had dropped to 1,650 bbls. Unsuccessful tests were drilled west, northeast and southwest, these tests indicating that the salt mass extends for 5 miles east and west. Shallow wells have been made in a cap rock on the dome.

The Long Point Dome is in Fort Bend County between the Big Creek and Damon Mound Pools. It is held almost exclusively by the Gulf Production Co., which has been doing all the development work there.

New Saline Dome

The Gulf Refining Co. has located a new saline dome in Iberville Paris, Louisiana, about 30 miles west of the Sorrento Dome in Ascension Parish, where the Gulf company's No. 1 United Land blew out last week at 1,600 feet. The Gulf company has 2,600 acres around the new dome, which is located in Township 9s, Ranges 11 and 12e on the Myrtle Grove plantation on Bayou Choctaw. It was located with the seismograph.

New saline domes in central and south Louisiana, which cover a 60-mile circle and are estimated to add 35 per cent to the potential reserve territory are as follows: Ascension Parish: Darrow Dome located by the Gulf Refining Co. in Sections 19-32, Township 10s, Range 2e. Sorrento Dome, by Gulf company in Sections 15-16, Township 10s, Range 2e.

La Fourche Parish, by Gulf company, near Lutcher, Section 63, Township 15s, Range 15e.

Baton Rouge Parish, by Gulf Refining Co., Section 63, Township 8s, Range 11e.

Iberville Parish, by Gulf Refining Co., Bayou Choctaw, mentioned above. By Union Sulphur Co., Bayou Blue Dome, Sections 72-75, Township 8s. Bayou Henry, by Union Sulphur Co. and Standard Oil Co. of Louisiana, Section 61, Township 8s, Range 10e. Bayou De Glaise by the same interests, Sections 78-86, Township 8s, Range 8e. White Castle Dome by the Roxana Petroleum Corp., Section 8, Township 11s, Range 12e.

Estimated Gross Production

The estimated daily average gross production for the week is placed at 154,855 bbls., an increase of 1,399 bbls. over last week. The estimate for each pool is as follows:

Pool—	Daily Av.
Boling	2,200
Batson	1,320
Blue Ridge	4,700
Big Creek	3,940
Barber Hill	800
Dayton	30
Damon Mound	915
Edgerly (La.)	1,225
Goose Creek	8,125
Humble	4,410
High Island	195
Hull	16,900
Jennings (La.)	1,400
Lockport (La.)	6,600
Markham	440
Nash	1,425
Orange	5,415
Orchard	95
Pierce Junction	7,970
Piedras Pintas	110
Spindletop	62,000
Saratoga	1,095
Sour Lake	4,260
South Liberty-South Dayton	2,970
Stark (La.)	700
Vinton (La.)	4,890
Welsh-Anse La Bute (La.)	25
West Columbia	9,400
*Miscellaneous	1,300
Total	154,855

*Includes Nacogdoches, Washington and Kleberg Counties; Cameron, Calcasieu and Iberia Parishes, Louisiana.

Of the gross daily average 15,540 bbls. are credited to the south Louisiana pools.

Southwest Fields

The estimated daily average production of the southwest fields for the week is placed at 33,315 bbls. The Mirando-Laredo district is off 850 bbls.

The estimate for each field is as follows:

Field—	Daily Av.
Luling	16,150
Mirando-Laredo	12,900
Somerset	1,210
Calliham	30
Rockdale-Minerva	1,075
Lockhart (Lytton Springs)	1,950
Total	33,315
Grand total for week	188,170
Grand total last week	187,793
Net increase	377

Wells Completed

The Yount Lee Oil Co. finished three nice wells in the deep sands at Spindletop. No. 6 fee came in flowing 1,800 bbls.; No. 19 Gladys flowed 1,000 bbls. and No. 6 on its Davis lease flowing 900 bbls. The Gulf Production Co.'s No. 7 Mann was cleaned out and responded by flowing 1,300 bbls. at 3,750 feet. It came in last week as a 5,000-bbl. well initially, but sanded after flowing a few hours.

The Rio Bravo Oil Co.'s No. 50 T. & N. O. came in early in the week making 1,800 bbls. at 4,425 feet, but had declined 50 per cent by the end of the week.

The screen was reset in Anderson & Plummer's No. 1 Whitehead on the north flank of the Pierce Junction Dome at 4,425 feet and the well came in flowing 300 bbls., 38 gravity oil. It showed salt water last week. The Rio Bravo Oil Co.'s No. 7 Settegast will make a pumper at 4,400 feet, as will J. F. Bashara's No. 2 Bender at 3,700 feet. Both are on the north side.

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 10 Beaumont is pumping 145 bbls. at 4,300 feet after being drilled deeper. Wilson and others' No. 7 Busch will make a pumper at 2,050 feet.

In the Hull Pool, the Republic Production-Houston Oil Co.'s No. 84 Dolbear will pump at 2,400 feet. The Gulf Production Co.'s No. 10 Phoenix, a worked-over hole, is bailing at 2,900 feet.

W. E. Woodruff's No. 2 Adams at Blue Ridge is bailing at 400 feet.

The Sterling Oil Co.'s No. 6 Hooks in the Batson Pool is a salt water well at 1,475 feet.

The East Side Oil Co.'s No. 1 Ogden at Saratoga is bailing at 2,475 feet.

The Texas Company has two pumping wells in the Big Creek Pool in Fort Bend County. Screen was set in No. 2 fee at 3,900 feet and in No. 4 fee at 3,750 feet.

One wildcat test was abandoned. The Orange Drilling Co. quit No. 1 Brown in Orange County at 3,650 feet.

South Louisiana

The south Louisiana pools are showing more animation than they have for several years. In the Jennings Pool, Cline, Smith & Cline's No. 2 Wilson came in flowing 500 bbls. at 1,600 feet. The Texas Company abandoned No. 1 Rayne deep test there, at 4,500 feet.

The Gulf Refining Co. bailed a little oil from No. 6 Lutcher-Moore in the Stark district at 4,100 feet and is now drilling the hole deeper. No. 5 is drilling in shale around 4,800 feet.

Results for the week in the Edgerly Pool show two salt water wells. The Rex Petroleum Co. got the brine in No. 5 Hunter at 4,000 feet and the Gulf Refining Co. at 4,100 feet in No. 41 Bright-Penn.

In the Lockport Pool, the Vacuum-Gulf companies' joint No. 2 Farquhar is good for 200 bbls., 4 per cent water, at 3,750 feet. No. 6 Farquhar is bailing at 3,800 feet, as is No. 16 Miller at 4,700 feet.

The Ville Platte Oil Co. abandoned No. 1 Fontent in Evangeline Parish, wildcat, at 1,610 feet.

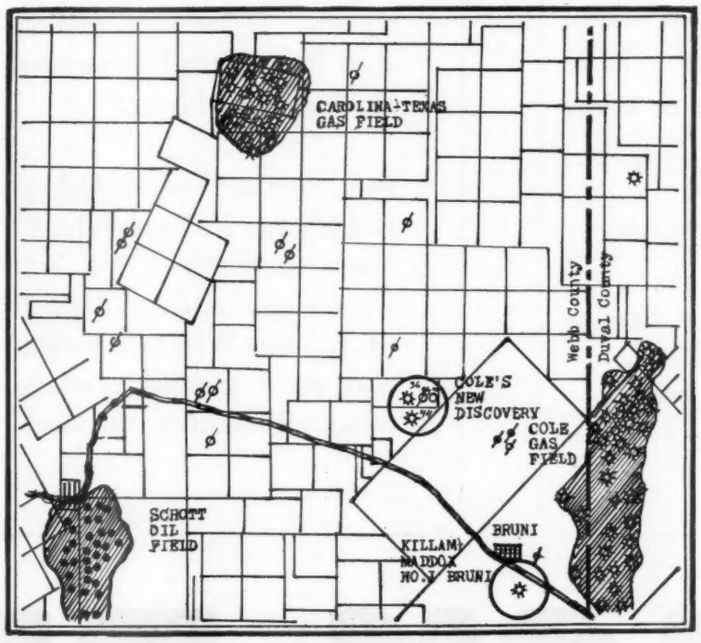
Routine Work in Pools

On the south side of the deep sand area at Spindletop, the Magnolia Petroleum Co.'s No. 3 fee is idle at 5,200 feet. No. 4 is drilling around 4,610 feet. No. 5 is below 5,100 feet, and No. 6 at 460 feet. No. 1 on the tank farm is around 5,100 feet. The Gulf Production Co.'s No. 3-A McLean is at 4,335 feet. No. 5 is at 3,190 feet, and No. 8 is drilling around 6,450 feet. A derrick is up for the Sun Oil Co.'s No. 11 McLean. No. 12 is around 5,700 feet. No. 13 is below 5,100 feet, and No. 14 at 4,100 feet. No. 1 Price is deepening at 5,340 feet. No. 3 Price is at 2,530 feet. The Grayburg Oil Co.'s No. 1 McLean is around 5,600 feet. The Gulf company's No. 11 Oakwood is at 4,655 feet, and No. 12 is sidetracking at 2,100 feet.

The Texas Company's No. 1 Garrick, one-half mile north of production, is drilling around 5,190 feet. The Hines Oil Co.'s No. 2 Gordon is deepening at 3,355 feet. The Lord-Mothner Oil Co.'s No. 2 Banks is doing the same at 4,300 feet.

(Continued on Page 117)

NEW HIGH SPOTS IN MIRANDO DISTRICT



SAN ANTONIO, Tex., June 25.—Two of the new high spots that have been developing in the Mirando district, 45 miles east of Laredo, is the Cole gas field No. 2 shown on the accompanying map northwest of the town of Bruni and the Killam-Maddox gasser opening a new field a half mile south of Bruni. They are in different sands compared with each other and also with reference to the other fields that surround them. Both are shown in the large circles.

The Killam-Maddox well is 2,317 feet deep and made about 50,000,000 feet of gas and the Cole No. 36 is 2,336 feet deep and made about the same amount of gas. The dip is toward the Killam-Maddox well and, though the same number of feet deep, if in the same sand, the Killam-Maddox well would have hit the formations much lower. The distance between them is about 4 miles.

The Cole gas field and the Schott or Mirando oil field each extend much farther south than indicated on the map.

Cole's No. 43 next east of the No. 36 at a few feet greater depth got a little oil and some salt water. No. 47, next east of it, is now drilling and No. 44 on the south is a big gasser.

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More Activity in Rocky Mountain Area

Two 1,000-Bbl. Wells Completed in Sunburst Field. More Work in Big Horn Basin. Utah Tests Encouraging

By F. B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., June 25.—The oil business in the Rocky Mountain region is gradually improving. The first indications are to be found in the refining plants, and these have shipped out increased quantities each week for the past six weeks.

The Big Horn Basin of Wyoming is showing much activity in the field besides the pipe lines being laid there. The Oregon Basin Field near Cody, Park County, is active with seven wells drilling and the same number to be started at once. This is all due to the Ohio Oil Co. finding oil in the Embar sand below the gas sand. For many years it has been held by the geologists that the Oregon Basin anticline was oil bearing, the old wells drilled by the Enlapac Oil Co., one of the French firms organized when the Belgian and French interests started so much development work in the Salt Creek Field, all were big gassers and several attempts to drill below the gas sand to test the lower sands failed on account of the heavy gas pressure. However, the Ohio Oil Co. succeeded in getting below the gas sand and struck oil.

The production is a black oil, asphaltic base, but it is recognized that while the black oil fields are shut in at present, the time is coming when this kind of crude will be in demand and production owners in the black oil fields will then reap a profit.

Black Mountain Producer

In the Black Mountain Dome, out of Thermopolis, in Hot Springs County, the Utah Oil & Refining Co. brought in a good black oil producer that is rated at 350 bbls. This well found its pay in the Embar sand at 2,918 feet. This well came in Thursday morning, and drilling is being continued to be sure and get all the pay sand.

This well boosts the production of Black Mountain to about 1,800 bbls. daily, as the Utah Oil & Refining Co. has four other wells shut in there and two wells are drilling. The pay lies about 3,000 feet deep, and no pipe line has been laid to carry the production out of the field yet.

The deep sands in the Grass Creek Field, where the Embar and Amsden have been found productive of black oil, will shortly have a test completed in the Ohio Oil Co.'s well on the Washakie lease. This well is now about 4,200 feet, and should find the Amsden sand within the next 300 feet. The same company found a big gasser in the Buffalo Basin Field on Section 36-55-100 in the second Frontier, and this well is estimated at 15,000,000 feet.

The Carter Oil Co. has resumed drilling on the Nowood Dome, Washakie County, having recovered the tools lost in that well a month ago. The Producers & Refiners Corp. is drilling at 2,925 feet on the Murphy Dome, Hot Springs County, and should have a completion within the next two weeks.

One of the surprises of the past week was the bringing in of a shallow producer in the Torchlight Field near Basin, in Big Horn County. This well started off at 50 bbls., and is located in the south part of the development on Section 25-51-92. It was drilled by W. B. Slagle, and the well was financed by people from Billings, Mont. This new producer has some dry holes between it and the Torchlight development proper, and it appears to be a new pool opening. Torchlight oil is a very high grade crude, light green in the tank and wine red when held to the light. It usually comes from a sand lens in the shale, and the wells are usually about 400 feet deep.

In the Torchlight Field the Producers & Refiners Corp. is rebuilding the old power house and getting ready to put the wells on production. There are 14 of these that are being cleaned out, and the firm will also put down a deep hole to test the lower formations that lie under the Torchlight production.

The Sheridan Wyoming Oil Co. is suing the defunct Globe National Bank of Denver for $75,000 which was held in escrow and was part of the purchase price The Texas Company had paid for the holdings of the former oil firm in the Maverick Springs Field in Fremont County, Wyoming.

Colorado

The Marland Oil Co. has announced that the company will drill two wildcats this season in Colorado, one on the Freezeout structure and the other on the Johhy Creek Dome, both in Las Animas County, along the southern border of the State.

The Peerless Oil Corp. is reported to have completed a new producer near Grand Junction, Mesa County, on the west side of Colorado. This well is said to have found a pay at 1,650 feet, and is located on what is known as the High Line Dome. It is reported as a commercial oil well.

Montana

The Pondera well, drilled in last week by Ralph Arnold and others, northwest of Great Falls, Pondera County, has caused great excitement. Leases are in demand and bonuses are being paid. Nothing further has been done with the well, but other locations have been spotted on adjoining acreage and more wells are to be put down at once.

The Sunburst Field had two big completions the past week. The Adams Oil Co. on Section 33-35-1 found production in the Ellis sand at 1,480 feet, and the well started off at 1,000 bbls. This is the first gusher well in Sunburst for some months.

The Hill and O'Neil interests also brought in a well good for 1,000 bbls. finding the pay in the Ellis sand at 1,4448 feet.

One of the most interesting completions in Sunburst Field for many months is that of the Kropp Oil & Gas Co. on Section 28-36-3. This well is west of production and in a territory long condemned because of the dry holes drilled in that area. The Kropp well found production in the Madison Lime at 2,032 feet and appears to open a new pool on the west side of Sunburst Field. The oil rose 1,700 feet in two hours and the well is looked upon as good for 50 bbls. settled production.

Utah

Last week the failure of the Snowden & McSweeney well on the Cane Creek Dome, south of Moab, Utah, caused the oil men of that district to condemn the territory as worthless, but the showings found in two wildcats around Moab the past week tend to bring those same hopes back again that there may be oil fields in the deserts of Utah yet.

Twenty miles south of Moab, Section 6-20-21, on what is known as the Gibson Dome, the Empire Gas & Fuel Co. has a showing that may make a commercial well at 3,570 feet. The showing of oil filled the hole 50 feet in about two days, so will not be tested at this time, but the well will be drilled on down and then brought back to test. The showing was also accompanied by gas, and as there was a column of water in the hole it was considered that the showing of oil would have made a commercial well if the overburden of water had been removed.

On Section 34-25-21, just outside of the town of Moab, the Embar Oil Co.'s test found a showing of oil at 3,817 feet that is also being regarded as commercial in size. This show was accompanied by gas and was found in a sandy lime formation.

The oil men have again taken heart from these showings, and the theory that the Cane Creek structure is a salt dome is given considerable credence. The first geologist to advance this theory was H. W. C. Prommel at the meeting last year at Denver of the American Association of Petroleum Geologists, and the points brought out by Mr. Prommel in his lecture before the convention at that time have been proven in the subsequent work of development.

In case the salt dome theory is found correct, the axis of the structure is not the place to drill, but rather down on the flanks, and this may account for the failure to find production in the Snowden & McSweeny well. One or two wells part way down the sides of the structure from the axis will prove or disprove this theory.

On Section 28-40-18, on the Cedar Mesa Dome, San Juan County, the Utah Southern Oil Co., Midwest interests and the General Petroleum Co. are drilling a joint wildcat test and the hole at present is at 2,860 feet and in a limestone. The Utah Southern Oil Co.'s Canyon No. 1 on the east anticline, San Juan County, is drilling in lime at 1,180 feet.

Pipe Line Work

The Big Horn Basin country in Wyoming is now receiving the largest play in pipe line work of any part of the Rocky Mountain region. The Ohio Oil Co. and the Illinois Pipe Line Co. have a line now being laid from the Oregon Basin Field in Park County to the Burlington Railroad near Cody. This line has 15 miles of ditch finished.

The Ohio Oil Co. is also laying a 4-mile water line in the Oregon Basin to furnish water for the development work there, and this is taken as an indication that the Ohio Oil Co. intends to start drilling more wells in the near future.

The big gas line being laid by the Midwest Refining Co. and the Wyoming Gas Co. from the Buffalo Basin Field west of Grass Creek, Hot Springs County, is nearing completion. This line is now being laid at the rate of a mile per day, and it is expected to tie into the Hidden Dome-Greybull line near Nowood, 71 miles from the starting point. Extensions will be laid from the trunk line to the Grass Creek Field to Worland, and gas service can be had by special arrangements along the route where sufficient quantity will be used to warrant tapping the trunk line. The Worland extension is to be started July 1 and gas is to be turned into the town mains about the middle of August. Both the Grass Creek and Worland extensions are 6 miles long.

This line is to cost $1,500,000, and the Cody to Oregon Basin oil line of the Ohio Oil Co. will cost about $250,000.

(Continued on Page 129)

GAS PRESSURE IN DEVENISH WELL INCREASES; OIL BECOMES LIGHTER

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, June 25.—In southern Alberta, southeast of Lethbridge, Devenish Petroleum's No. 1, LSD 5, Section 27-5-14w4, is the center of interest in Alberta oil development. No attempt will, it is stated, be made to deepen the well, now standing at 3,000 feet with a production indicated by the swabbing test of 250 bbls. a day. It is claimed that with continued production the gas pressure is increasing and the oil becoming a little lighter in quality, being rated about 23 gravity. Tanks are being set up, and the well will be put on the pump.

The production comes from the black lime of the Ellis, about 100 feet higher than the Ellis-Madison contact, the principal producing horizon in the Kevin-Sunburst Field 50 miles further south. No attempt will be made to shoot the well or to test the thickness of the sand by drilling deeper into the Ellis. The drill has already gone through about 10 feet of the oil sand. The location seems to be on the edge of the structure. Devenish No. 2, which, it is reported, will be located between 1 and 1½ miles north of No. 1, will likely be drilled deeper to determine the actual thickness of the oil sand at a point where the danger from water intrusion is not so great. So far, no trouble whatever has been reported with water in this horizon, though in the Milk River sandstone at about 600 feet a huge artesian water flow, estimated at 30,000 bbls. a day, was encountered and shut off.

Strike a Surprise

The strike seems to have been a surprise to a good many of the geologists; as the area was not regarded with exceptional favor. The test was a pure wildcat, with no logs or core drilling to help, and practically no outcrops. A test put down east of the Foremost Field was a gasser, and the theory that on the flank of this fold the bit would escape the gas and hit oil was the basis on which the company worked. The late Dr. D. B. Dowling, pioneer of Alberta geology, had also contended that the secondary fold paralleling the Rockies, through the Great Plains area, carried the main reservoir of crude oil. A somewhat similar theory was also held by Eugene Coste.

When drilling started on July 31, 1926, an exceptionally well equipped camp and drilling outfit were on the ground, standard tools being used. Water from an artesian well a mile due north supplied the camp through two 2-inch pipe lines. When operations were shut down for the winter the well stood at 2,300 feet. A cold weather shutdown of three and one-half months was followed by resumption of drilling on March 16; the well thus being completed in about 10 months, with a three and one-half months lay-off. A tremendous flow of artesian water was met in the Milk River sandstone at 685 feet; and Skiff, being in the heart of the artesian well region, exceptional care was given to the casing. The casing in the well includes 122 feet of 24-inch, 494 feet of 20-inch, 767 feet of 15½-inch, 1,841 feet of 12½-inch, 2,606 feet of 10-inch and 2,045 feet of 8½-inch. The well was cemented twice, the 15½-inch and the 10-inch strings. Oil colors were several times brought up, but no real oil sand till 3,080 feet. The drilling crew consisted of W. C. McKnight and Howard Young, drillers; Otto Harman, fireman; Elmer Lindskoy and Frank Robinson, tool dressers; A. A. Davidson, fire-

(Continued on Page 113)

BARSCO

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Lower Alamitos Sand May Be Larger

Also More Prolific According to Speculation at Seal Beach. Its Thickness Yet Undetermined

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., June 25.—California operators drew on stocks to the extent of 1,051,581 bbls. during the month of May, but this welcome bit of news has been offset by a number of unfavorable developments since that time. The General Petroleum has definitely opened up a new deep zone at Alamitos Heights in the much-discussed Seal Beach Field, although it is doubtful if this new deep sand will have kick enough to establish a new high peak at Alamitos since the upper or Selover sand will have declined substantially before the lower horizon comes into the play. As was predicted on June 11 Seal Beach went over the top in the following 10 days allotted at that time. The field's production dropped 9,000 bbls. this week and a further decline should take place during the coming seven-day period. The extent and productivity of the new sand found is, of course, still unknown, but as the General Petroleum failed to get commercial production on the Wasem lease from the upper, or Selover horizon, it looks as though the lower will be larger in area and probably more prolific, although the odds are that it will be thinner.

No. 7 Wasem, the General Petroleum's deep sand discovery, came in flowing 26 bbls. an hour on Wednesday, June 22, from a depth of 5,277 feet. The top of the new horizon, which will be designated as the Wasem sand, is 410 feet below the top of the Selover sand. No. 7 Wasem, the discovery, took only a 20-foot penetration in the new zone and hence the total thickness of the sand is undetermined.

Three Separate Horizons

The lineup at Seal Beach as a result of the General Petroleum's find is quite interesting as this field now has three distinct horizons. In the older section, the first, or top horizon, is known as the Bixby sand, while the second, or deep zone, in that area is known as the Selover sand. Operators in the town lot, or Alamitos Heights section, failed to find the Bixby zone, but picked up the Selover sand, and it is from this source that current production is coming.

The General Petroleum's discovery, made a day or two ago, has resulted in a rather peculiar condition in that the Selover, or second sand in the older section of the Seal Beach Field, is the upper horizon at Alamitos Heights overlying the newly discovered Wasem zone. The discovery of this deep Wasem sand in the town lot area has resulted in considerable speculation as to the probable thickness of the Selover zone in the older section and also as to whether the Wasem sand is present in the old field as well.

The importance of the new Wasem sand found in the town lot area is still a matter of conjecture and nothing along this line will be known until another producer or two has tested it out further. There is no questioning the fact that this new sand presents unlimited possibilities, for it must be remembered that No. 7 Wasem, the discovery, is not any too favorably located with respect to structure. The drilling of a deep test in the center of the field will therefore be watched with considerable interest and, while it would be a wonderful thing if operators could be prevailed upon to hold off indefinitely, efforts along this line in the past have proved futile and there is but little hope that a similar movement in this field would meet with success.

Geologists are somewhat divided on their interpretation of the sand found by the General Petroleum and, while some believe the Wasem zone has characteristics similar to conditions prevailing at Santa Fe Springs in that the lower horizon will be larger in area and more prolific than the upper, there are others who believe that the Wasem and Selover sands in the town lot area are one and the same, the variation in production depths being attributed to the irregularity of the sand. In most California fields, the deep zone has proven the most prolific, although in the northwest extension, or Los Cerritos section of the Long Beach Field, deep drilling proved a dismal failure. Regardless of existing conditions, the rapid development of a deep prolific sand at Alamitos Heights is highly undesirable at present, as this intensive drilling may precipitate another production crisis.

Two Wildcat Areas

The possibility of increased production resulting from rapid development of the deep zone at Alamitos Heights is not the only disconcerting factor in California at present as there are two very promising wildcat areas under development which give evidence of yielding commercial production. One of these possible producers is the Chanslor-Canfield Midway Oil Co.'s No. 1-B Hobson, a wildcat west of the Ventura Avenue Field in Ventura County. No one doubts the existence of an oil sand in this test for, in addition to the ditch showings, core samples have definitely proven the presence of high-gravity oil. The Chanslor-Canfield Midway Oil Co. thinks enough of the showings found to start two new wells, one of which is already making hole. To make a long story short, tab Ventura County with a possible new oil field which, in all probability, will be a prolific one and probably comparable to the present highly productive Ventura Avenue Field.

Seal Beach

Completions in the Seal Beach Field were exceptionally numerous during the past week and, while the discovery of a new deep zone by the General Petroleum overshadowed all other developments, one must not lose track of the fact that that the present Selover sand is still yielding a large number of big wells each week, although the initial production of new wells is falling off somewhat. It is problematical just how soon deep sand development will get under, but it looks as though five wells on top of the Alamitos structure are already scheduled for immediate deepening. The Petroleum Securities finished two new wells in the Alamitos Heights section and incidentally increased its daily production 3,445 bbls. No. 1 Dexter came in flowing 1,955 bbls. daily from 4,891 feet, while No. 1 Williams started off flowing 1,490 bbls. of clean 26.6 gravity oil daily from 4.893 feet. The Pan American recompleted No. 2 Naples after deepening it from 4,731 feet to 4,973 feet to secure maximum penetration. This rejuvenated well, which originally came in flowing 2,250 bbls. per day last April, was put back on production yesterday doing 3,362 bbls. of clean 26.8 gravity oil daily. The Petroleum Securities and Pan American should finish five or six new wells in the Selover sand within 10 days and these affiliated companies should add several more shortly thereafter.

The Superior Oil Co. also took advantage of the maximum penetration available by deepening No. 1 Kenkel from 4,700 feet to 4,903 feet. That this deepening job was successful is indicated by production being boosted from 750 bbls. daily to 1,390 bbls. The Marland finished one new well and recompleted another, No. 13 Selover, originally finished early in May doing 2,200 bbls. daily from 4,745 feet. The discovery that deeper penetration was available in the Selover sand a short time ago resulted in the deepening of this well to 4,960 feet, from which depth it was returned to production early in the week flowing 1,680 bbls. of clean 26.8 gravity oil daily. No. 15 Selover, the new well completed, was drilled to 4,960 feet and finished with a 4½-inch liner. It tanked 1,488 bbls. of clean 26.4 gravity oil during the initial 24-hour test. The Marland has four drilling wells scheduled for completion in the Seal Beach Field during the next two weeks, all of which look good for favorable production.

Other Completions

The Universal Consolidated's No. 1 Enloe registered a very satisfactory production upon completion at 4,985 feet. It tanked 1,325 bbls. of clean 26.3 gravity oil during the initial test several days ago and has been holding up very consistently. It is flowing through a seven-eighths inch beam under a pressure of 680 pounds. This company has two more wells nearing completion, both of which should be finished during the next two

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, Location—	S-T-R	Depth	Status
General Pet. No. 1 Gulberson, Potrero	35- 2-14	Rig	wait. devel.
Calif. Eastern, No. 1 Cypress, Potrero	27- 2-14	4,670	gr. sd. drilling
Associated, No. 1 Cypress, Potrero	34- 2-14	4,450	suspended
Associated, No. 2 Cypress, Potrero	2- 3-14	4,352	gr. sd. drilling
Getty, Geo. F., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Getty, Paul, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
California Pet. No. 1 Sutton, Potrero	34- 2-14	Rig	wait. devel.
California Pet. No. 1 Armour, Potrero	35- 2-14	Rig	wait. devel.
Cole, Fred E., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dill Oil Co., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Walker, Fred, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Getty, Geo F., No. 1 Tubbs, Rivera	25- 2-12	3,717	gr. sd. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	22- 3-14	4,128	suspended
Shell, No. 1 Mission, San Fernando	4- 2-15	2,316	reaming
Sou. Calif. Drlg. Co., No. 1 Matteson, El Segundo	1- 3-15	4,870	fishing
Carr, O. P., No. 2 Foster, San Juan Capistrano	13- 8- 8	2,514	gr. sd. drilling
Cardiff Oil Co., No. 1 Oceanside, San Diego	24-13- 4	2,805	redrilling
O'Donnell, J. E., No. 2 Julian City, Los Angeles Co.	7- 4-14		location
Thomason & McCoy, No. 1 Rinz, Saugus	27- 5-16	427	sd. drilling
Southwest Pet., No. 1 Ramsauer, Watts	4- 3-13	1,429	sd. sh. drlg.
Reliance Inv. Co., No. 1 Leuzinger, Los Angeles Co.	8- 3-14	1,164	cleaning out
Shell, No. 1 Allec, Placentia	31- 3- 9	1,804	hd. sd. drlg.
Standard, No. 1 Olive, Orange Co.	17 4- 9	Rig	rigging up
Standard, No. 1 Rindge, Palms	36- 1-15	Rig	in litigation
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	1,049	hd. sd. drlg.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Associated, No. 1 Smith, Kettleman Hills	12-23-18	2,043	suspended
Bolsa Chica, Well No. 1, Kettleman Hills	30-23-19	2,563	bl. sh. drlg.
General Pet., No. 1 Burbank, Kettleman Hills	30-23-19	3,105	cleaning out
General Pet., No. 2 Oachener, Kettleman Hills	26-22-18	3,019	gr. sd. drlg.
General Pet., No. 1 Dome, Kettleman Hills	4-24-19	Rig	rigging up
C. C. M. O., No. 1 McGlashan, Kettleman Hills	17-24-19	3,815	gr. sd. drlg.
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	2,511	gr. sd. drlg.
Gilbert, W. M., No. 1 Barritt, Kettleman Hills	20-23-19	Rig	rigging up
Ahlburg Gas Co., Well No. 1, Kettleman Hills	7-23-23	Rig	standing
Milham Explin., No. 1 Kettleman, Kings Co.	2-22-17	3,821	hd. sd. drlg.
Shell, No. 2 Berlywood, Moorpark	32- 3-20	3,870	hd. sd. drlg.
C. C. M. O., No. 1 Hobson, Ventura Co.	22- 3-24	6,470	cemented
C. C. M. O., No. 1-B Hobson, Ventura Co.	16- 3-24	4,250	oil sand
C. C. M. O., No. 1 State, Ventura Co.	17- 3-24	501	sd. drilling
C. C. M. O., No. 1 U. S., Ventura Co.	17- 3-24	Mtl.	building rig
Continental Oil Co., No. 1 Newhall, Ventura Co.	36- 4-18	2,595	testing
Continental Oil Co., No. 1 Burnham, Ventura Co.	22- 5-18	2,570	gr. sd. drlg.
Milham Explin., No. 1 Sexton, Ventura Co.	19- 3-22	7,100	fishing
Standard, No. 1 Camarillo, Ventura Co.	29- 2-20	5,395	hd. sd. drlg.
Standard, No. 1 Montalvo, Ventura Co.	17- 2-22	6,060	hd. sd. drlg.
Pet. Sec., No. 1 Diablo, Ventura Co.	4- 4-18	2,580	hd. sd. drlg.
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	3,297	hd. sd. drlg.
Star Pet., No. 1 Canet, Ventura Co.	13- 3-23	5,281	sd. sh. drlg.
Richfield, No. 1 Janes, Ventura Co.	16- 5-18	3,509	gr. sd. drlg.
Richfield, No. 27 Piru, Ventura Co.	35- 5-18	1,500	gr. sd. drlg.
Milham Explin., No. 2 Buttonwillow, Kern Co.	8-28-23	4,662	clean. out
Milham Explin., No. 3 Buttonwillow, Kern Co.	7-29-24	4,001	testing
Pacific East., No. 1 Bakersfield, Kern Co.	6-30-28	4,130	gr. sd. drlg.
Royal Pet., No. 1 Machado, Kern Co.	31-30-28	Mtl.	building rig
C. C. M. O., No. 1 Quinn, Delano	23-25-27	1,723	recemented
Miocene Oil Co., No. 1 Bluff, Kern Co.	34-27-28		location
Muroc Dev. Co., No. 1 Rosedale, Kern Co.	13-29-26	1,498	rebuild. rig
Standard, No. 1 Bacon, Kern Co.	27-28-20	3,490	br. sh. drlg.
Pet. Sec., No. 1 Aniotz, Monterey Co.	2-22- 9	2,400	hd. sd. drlg.
Birch Oil Co., No. 1 Porterville, Tulare Co.	13-20-26	150	suspended
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	721	land pipe
Shell, No. 1 Cowell, San Mateo Co.	8- 6- 5	3,740	hd. sd. drlg.
Shell, No. 1 Murphy, Petaluma	29- 5- 6	5,390	hd. sd. drlg.
Shell, No. 1 Ielmorini, Sonoma Co.	14- 5- 7	806	hd. sd. drlg.
Thomas & Hammill, Well No. 1, Alameda Co.	16- 3- 3	1,122	hd. sd. drlg.
Continental Oil Co., No. 1 Sargent, Santa Clara Co.	31-11- 4		location

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily Average	Total Last week	Daily Average	This year To date	Same time Last year
Crude oil	228,861	32,695	235,871	33,696	3,913,560	6,649,779
Fuel oil	78,453	11,208	168,145	24,021	4,289,954	2,868,369
Diesel and gas oil	67,438	9,634	159,278	22,754	1,613,364	1,256,409
Gasoline	.....	.....	326,268	46,610	3,733,606	3,096,965
Tops	.....	.....	.....	.....	.....	149,906
Coastwise—						
Crude oil	505,515	72,216	575,735	82,248	12,655,794	11,988,660
Fuel oil	73,289	10,470	152,253	21,750	5,436,691	4,200,210
Diesel and gas oil	.....	.....	7,092	1,013	135,152	125,672
Gasoline	239,221	34,174	257,904	36,843	3,988,048	3,427,545
Kerosene	2,098	300	2,448	350	55,243	138,950
Tops	62,570	8,939	.....	.....	62,570	341,139
Exports—						
Crude oil	126,330	18,047	.....	.....	1,526,359	1,882,196
Fuel oil	478,735	68,391	836,108	105,167	12,813,923	7,537,884
Diesel and gas oil	25,312	3,616	73,268	10,467	642,062	145,201
Gasoline	.....	.....	76,732	10,962	1,812,502	2,056,762
Tops	.....	.....	.....	.....	227,204	.....
Kerosene	72,609	10,373	.....	.....	1,089,753	1,110,286

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Crude oil	.....	.....	.....	.....	.....	.....
Fuel oil	.....	.....	.....	.....	.....	.....
Diesel and gas oil	90,053	12,865	.....	.....	505,608	790,778
Gasoline	.....	.....	.....	.....	961,581	608,848
Tops	.....	.....	.....	.....	.....	73,698
Kerosene	.....	.....	.....	.....	.....	.....
Lubricants	.....	.....	58,916	8,417	170,886	157,147
Coastwise—						
Fuel oil	261,340	37,334	.....	.....	2,796,926	2,702,175
Diesel and gas oil	.....	.....	.....	.....	173,724	.....
Gasoline	147,505	21,072	54,254	7,751	2,304,700	2,034,998
Kerosene	12,337	1,763	8,162	1,166	111,120	187,752
Exports—						
Fuel oil	.....	.....	148,109	21,158	1,148,825	1,156,401
Diesel and gas oil	.....	.....	.....	.....	.....	.....
Gasoline	.....	.....	.....	.....	1,672,011	959,669
Kerosene	.....	.....	.....	.....	535,647	1,002,718
Lubricants	.....	.....	.....	.....	9,120	18,051

weeks. M. W. Pannill successfully finished his No. 1 Alamitos as a 650-bbl. flowing well from 4,832 feet, but the production did not stand up and some additional hole is being added. The California Petroleum, which is getting more than its share of production at Alamitos Heights, brought in No. 1 Hodges flowing 1,660 bbls. of clean 26.4 gravity oil daily from 4,931 feet, the hole having been finished with a 6⅝-inch liner carrying 250 feet of perforated. This company should have three more wells on production within 15 days. The Coastal Oil Co.'s No. 3 Dodds started off flowing at the rate of 1,800 bbls. per day upon completion but the first full 24-hour test showed the initial output to be 1,290 bbls. The oil from this well, which was drilled to 4,867 feet and finished with a 4½-inch liner carrying 315 feet of 100-mesh screen, is exceptionally clean and tests 26.9 degrees. The California Eastern Oil Co. brought in No. 1 Persons pumping 420 bbls. of clean 27.2 gravity oil daily from 4,800 feet and made a preliminary production test on No. 1 Graves at 4,796 feet which showed 290 bbls. This company has something like six new wells nearing completion, most of which should be tanking oil within 21 days, unless carried down to the newly discovered deep Wasem sand.

The Associated's No. 31 Bryant was completed a day or two ago and the initial test showed 250 bbls. of clean 26.0 gravity oil daily. This well, located in the older section of Seal Beach Field, was carried down to 4,781 feet and finished with a 6¼-inch oil string carrying down to 4,781 feet and finished with a 6¼-inch oil string carrying 290 feet of 100-mesh screen. No. 10 Hellman, a new well, registered an exceptionally large initial upon completion at 4,784 feet. It started off flowing 2,525 bbls. daily and has been holding up very steadily. The Associated's No. 17 Hellman blew in as a gasser early this week and, while the rig and equipment were wrecked, the hole may possibly be salvaged as the well had been successfully cemented previous to the blowout. A string of 15½-inch had been landed at 1,394 feet with an 8⅝-inch water string set just above the top of the pay. The gas, sand and water blew out between the 15½-inch and 8⅝-inch. Wallace and Failing have just brought in No. 1 Alamitos from 4,920 feet and, while the actual output is not available, the initial 24-hour test having not yet been concluded, it looks good for about 1,200 bbls. daily. A check of the numerous independent projects under way indicates a continuance of the present large weekly completion list for several weeks, although the initial production of new wells in the Selover sand from now on should be smaller. The potentiality of the Wasem zone may change the present outlook at any time.

Huntington Beach

Completions in the Huntington Beach Field during the past few weeks have been less frequent due to decreased drilling but daily production has remained remarkably steady. The new production added due to periodical completions has just about offset the decline in older producers. The day of big production at Huntington Beach is over and, with the ceasing of frenzied drilling, normal development work has set in. Operators in the town lot section, which parallels the ocean front, are moving slowly eastward and, while the new production to be secured in this direction from now on will not be large, new wells should average from 200 to 400 bbls. per day. The latest completion was Cyrus Wicker's No. 1 Huntington, a 400-bbl. pumper from 3,848 feet. This hole ran into bottom water at 3,869 feet, but was successfully plugged back, although the output is cutting approximately 5 per cent. The San Martinez Oil Co. is still working with its No. 1 Hanke, an outpost at Ninth and Ocean Avenues, a little less than three blocks east of the nearest successful producer. The company is closely guarding all information as to this well but field scouts volunteer the information that the hole has been junked.

J. H. McMahon finished his No. 2 Huntington in the shallow heavy zone at 1,892 feet, and this well is pumping on an average of about 125 bbls. per day. E. J. Miley, who drilled a deep test, No. 5 on the Pacific Electric property, is plugging back by stages following an unsuccessful attempt to discover another zone. This well, which was carried down to 5,298 feet in search of the mythical sand, has been plugged back to 4,100 feet and, although it is capable of pumping from this depth, none of the plugs, put in bottom have effected a satisfactory water shutoff. The California Petroleum redrilled and deepened No. 1 Tubach to 4,442 feet and returned it to production pumping 180 bbls. of 25.4 gravity oil daily. This well was originally finished in November, 1926, at which time it came in flowing 810 bbls. per day from 3,952 feet. The Auburn Oil Co. also listed a recompletion when No. 1-A Hansen was put back on the beam at 4,650 feet. The initial pumping was 175 bbls. of fairly clean 24.2 gravity oil daily.

Inglewood

The Standard finished No. 62 Baldwin in the Inglewood Field early this week as a 220-bbl. pumping well, the oil testing 18.6 degrees. This hole was carried down to 2,063 feet and finished with a 9-inch oil string carrying 688 feet of 80-mesh screen. On Los Angeles Investment Lease No. 1 the Standard recompleted No. 40 after cleaning out the hole to bottom. Upon being returned to production this well started off pumping 285 bbls. of 20.9 gravity oil daily. A check of development charts indicates there is not a single drilling well in the Inglewood Field at present, although two new rigs are going up, one scheduled to be spudded in shortly. Drilling operations at Santa Fe Springs, Dominguez and Rosecrans are likewise very quiet with the result that there is only one incompleted drilling project in each field. There are two drillers at Torrance, both standing to the credit of the Chanslor-Canfield Midway Oil Co.

Montebello

The St. Helens Petroleum successfully finished No. 15 Monterey in the Monterey Field early this week as a 435-bbl. well, the oil testing 28.6 degrees A. P. I. This hole was carried down to 4,343 feet and finished with a 4¾-inch liner, 130 feet shop perforated. Only two strings of pipe, 3,501 feet of 11-inch and 4,290 feet of 8¼-inch, were required for completion in addition to the 4¾-inch liner. The Standard got a light showing of oil in No. 1 Stocker-Merced in this field at 2,660 feet, but commercial production is not anticipated for some time. The Chicksan Oil Co. has just passed the 1,000-foot level in No. 1 Mathis in the East Coyote Field, and this well, approximately 500 feet away from Herndon & Hunter's No. 1 Lemke which blew in about two months ago, is going along nicely. The Petroleum Securities has leased the Wright property east of Herndon & Hunter's Lemke holdings and a rig is already in course of construction. Herndon & Hunter, incidentally, are rigging up rotary equipment for early work in No. 2 Lemke. The Holly Development Co.'s No. 1 Barnett, also located in the East Coyote district, landed a string of 11-inch at 2,512 feet a short time ago and the bit has passed the 3,000-foot level. The Shell has concluded drilling operations on No. 2-A Puente in the Brea Olinda Field and an early test will be made from 5,152 feet.

Ventura Avenue

The General Petroleum Co.'s No. 11 Barnard in the Ventura Avenue Field, brought in about two weeks ago flowing 1,295 bbls. from the 6,500-foot level, is holding up in good shape; in fact the present daily production is 10 bbls. in excess of the initial. No. 9 Barnard at 6,619 feet is showing an exceptionally high gas pressure and a heavy mixture of hematite is being used to keep the well under control. No. 1-A Hisey ran into a fishing job at 6,379 feet, but a quick recovery was made and the hole is now down 6,404 feet with excellent showings of oil and gas. The Bolsa Chica Oil Co. hit the top of the pay in No. 3 Hartman at 4,218 feet and a string of 11-inch has been landed and cemented at approximately 4,237 feet. G. J. Magenheimer intended to set a string of 8¼-inch at 5,590 feet, but it froze about 500 feet off bottom and an effort is being made to loosen the string by circulating with oil. This well is several hundred feet north of production and operators are hoping for an early recovery so they may get a definite line on the northern limits of the field.

In the southern part of the district the Petroleum Securities has landed and cemented a string of 6⅝-inch in No. 1 Willett and drilling will be resumed shortly. This company has three other drillers in this immediate area, two on the Orton property and one on the Willett lease. The Associated and Shell, having reduced their respective drilling programs to a minimum, will only list a limited number of new wells during the next several months, unless conditions take a sudden turn for the better. In the South Mountain Field in Ventura County the California Petroleum Corp. finished No. 21 Santa Paula at 4,055 feet and it is being listed as a 230-bbl. well.

Midway-Sunset

The Standard finished two new wells in the Midway-Sunset Field, one in Section 7-32-24 and the other in Section 17-32-24. No. 232 in the former section came in doing 118 bbls. of 24.9 gravity oil daily from 2,900 feet, while No. 38 in Section 17 was finished as a 92-bbl. pumper from 3,544 feet. The Standard's No. 140, a recent completion in Section 5-11-23 and an offset to the Obispo Oil Co.'s No. 7 out in the Maricopa flats, has increased its initial production from 525 bbls. to 1,360 bbls. without any change in the size of the bean. The initial production was accompanied by considerable gas and as the pressure subsided the oil production increased. The oil is practically clean, notwithstanding the production is coming from approximately 900 feet of open hole.

The Shell has not yet started actual construction of its projected pipe line extension from Coalinga southward to Mount Poso via Midway-Sunset, but it is thought that definite action will be undertaken shortly. In the meantime the Union is transporting the Honolulu Consolidated's production and delivering it to the Shell at Coalinga. The Shell's purchase contract with the Honolulu Consolidated covers a five-year period and calls for an aggregate delivery of approximately 15,000,000 bbls. of crude oil, more or less. The announcement by the Shell that this contract had been consummated did not come as a surprise as it was known negotiations were under way. In addition to the Honolulu's crude oil production, the Shell will acquire the former's output of casinghead gasoline. The Navy Department will open bids in Los Angeles late this afternoon covering the sale of government royalty crude oil and casinghead gasoline produced in Naval Oil Reserve No. 2 of California under the lease granted the Honolulu Consolidated Oil Co. The actual royalty which accrued to the Navy Department during March was 36,735 bbls. of crude oil and 63,542 gallons of natural gasoline.

Kern River

George F. Getty finished another new producer on the Kern front by bringing in No. 19 Lehnhardt as a 118-bbl. pumper from 2,115 feet. Getty has experienced considerable success in developing this shallow production and will probably finish two additional producers within 15 days. The Standard brought in Nos. 6 and 7, both in Section 15-28-27, and incidentally increased its daily production 240 bbls. Both started off pumping 120 bbls. daily, the former being finished at 2,173 feet and the latter at 2,170 feet. The General Petroleum redrilled and deepened No. 1 Sill in Section 26-28-27 and it has been returned to production pumping 165 bbls. from 2,383 feet.

The Elbe Oil Co. has started work on its second well in the Round Mountain Field northeast of Bakersfield, but only a limited amount of drilling will be undertaken due to the lack of pipe line facilities. The Santa Barbara Oil Co., operating the holdings of the Transcontinental interests in the Goleta Field, Santa Barbara County, secured its first production in this district when No. 2 Goleta was brought in as a 560-bbl. flowing well from 1,590 feet. The productive limits of the Goleta Field were extended about 1½ miles and, judging by the depth and status of the Santa Barbara Oil Co.'s No. 1, additional production can be an-

(Continued on Page 113)

SLIGHT INCREASE IN OPERATIONS IN SOUTHEASTERN NEW MEXICO

By Special Correspondent

ARTESIA, N. Mex., June 25.—The review of the week in the southeastern New Mexico fields shows 2 more locations than last week; an increase of 5 in active drilling wells; 1 less rig up; and 22 less shut down wells. No completions were reported. No report was received from the wells in the northeastern counties. The southeastern fields show 28 active drilling wells and 22 shut down.

In Chaves County the Arena Oil Co. is building camp preparatory to starting a test, C NW SE Section 18-13s-31e. The Texas Production Co.'s No. 1 Dunken Dome, C SW SW Section 29-17s-18e, was drilling below 3,700 feet. The Buffalo-Roswell test, C NW SE Section 25-11s-25e, was drilling at 4,150 feet.

The McAdoo Petroleum Co.'s No. 1 State, SW cor. NE Section 16-1s-27e, DeBaca County, was drilling at 2,618 feet.

In Eddy County, Hammond Oil Co.'s No. 1 Patent, NW SE SW Section 15-16s-25e, was drilling at 1,100 feet. Texas Production Co. was last reported at 3,170 feet and drilling in No. 1 permit, NE cor. SW Section 25-16s-31e. W. A. Stone's No. 1 Knulick, SW cor. NW NW Section 25-17s-26e, was drilling below 1,500 feet. Empire Gas Fuel Co. was preparing to abandon No. 1-B permit, SE cor. NE Section 34-17s-26e, total depth 2,500 feet. Eastland Oil Co. has made location for No. 1 permit, SW cor. SW SE Section 23-17s-26e, and has the tools on the ground. The Skelly Oil Co. was drilling at 3,933 feet carrying 1,000 feet of water in the hole in No. 1 permit, NE cor. Section 22-17s-26e. The Midwest Refining Co.'s No. 1 Terry, SW cor. NW Section 15-18s-26e, was drilling at 1,247 feet, with the hole full of water. Compton and others were laying a fuel line to No. 1 permit, NW cor. NW SE Section 2-18s-27e. The well is at a total depth of 780 feet. George Getty, Inc.'s, No. 1 permit, SE cor. Section 14-20s-29e, was drilling at 550 feet, top of the salt at 350 feet. George Getty, Inc., was rigging up No. 1, NW cor. Section 33-22s-27e.

In Guadalupe County, the Navajo Oil Co.'s No. 1 permit, C NE NE Section 10-3n-17e (corrected location) was drilling at 1,430 feet. Hanchett and others have a location made in the SE SW NE Section 24-8n-24e.

In Lea County, a water well was being dug for A. D. Morton's No. 1, C SW SW Section 28-11s-28. The Texas Production Co.'s No. 1 permit, SW cor Section 34-17s-33e, was drilling at 4,991 feet, showing a little water. Inglefield-Bridges' No. 1 State, SE cor. Section 4-17s-34e, was swaging 8¼-inch casing, total depth 4,876 feet. The Exploration Co.'s No. 1 patent, C NE Section 25-19s-35e, was drilling at 3,375 feet. The Texas Production Co. has spudded in No. 1 permit, SE cor. Section 4-20s-34e. Covert and others' No. 1 State, NE cor. NW Section 15-21s-33e, has a new rig up and was getting ready to deepen; present total depth 3,970 feet. The Texas Production Co.'s No. 1 Rhodes, SE cor. NE NW Section 22-26s-37e, was fishing at 3,040 feet.

Seipple and others' No. 1 Stone, NE cor. Section 23-4n-1e, Socorro County, was drilling at 2,640 feet.

In Torrance County, the Duran Doane Oil Corp.'s No. 1, SW cor. NE Section 31-3n-15e, was drilling by tools, total depth 1,267 feet. Sinnock Brothers were drilling below 225 feet in No. 1 Dehart, SW cor. SE Section 12-7n-10e.

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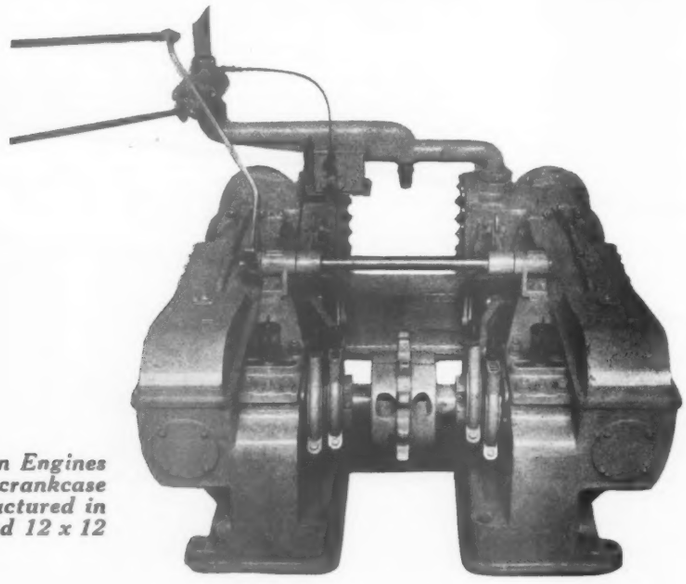

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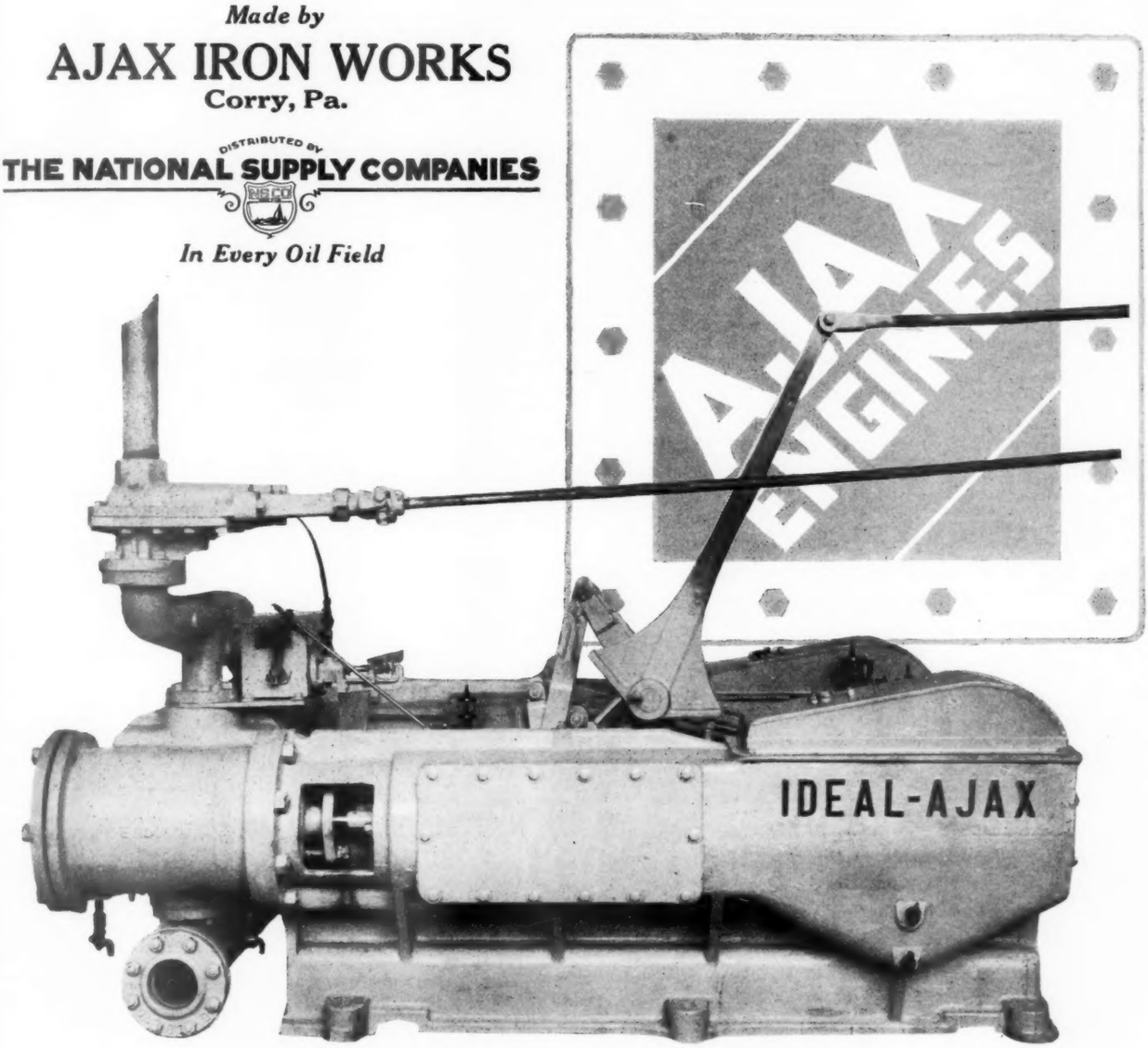

-AJAX ENGINES

Muskingum County Has 152 Bbl. Well

Guernsey County Still Most Active but Completing Few Producers. Light Wells in West Virginia and Pennsylvania

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., June 27.—Development work moved slowly during the week and no large wells were completed, only a few fair producers located in the deep sand territory in southeast Ohio. The southwest Pennsylvania and West Virginia fields completed nothing better than light pumpers. Operations are still lagging and little new work starting. Except for general conditions, operators have nothing to claim their attention. All are hopeful for improvement before the close of the year. The demand for high-grade crude is holding firm. The refineries in Pittsburgh and vicinity are taking about all that is offered.

Nothing new in the way of producing territory is in sight at this time. All the work under way and starting is in well-defined territory and light producers the most that can be expected. The only wildcat that was drilling is in Ravenwood district, Jackson County, and is shut down. Wildcatting is almost negligible in the esatern fields at this time. It is hazardous at best and operators are not willing to take chances in territory that has been so long under development.

Southeast Ohio Completion

In the northeast quarter of Section 4, Jackson Township, Muskingum County, the Pure Oil Co. has completed and shot in the Clinton sand No. 6 on the Jacob Ashcraft farm. It produced 152 bbls. the ensuing 24 hours. In Lot 5, Hardy Township, Holmes County, the Empire Gas & Fuel Co. completed in the same formation No. 4 on the James P. Close farm. It produced 115 bbls. the first 24 hours after shot.

In the northeast quarter of Section 24, Green Township, Hocking County, Adair & Sturm completed in the Clinton sand a second test on the Woodruff heirs' farm. It produced 66 bbls. the first 24 hours after shot. In Section 24, Alexander Township, Athens County, the Townsend Oil & Gas Co. has a 5-bbl. pumper in the Berea grit at No. 9 on the Elizabeth Smoot farm.

At Ribbardsville, Section 24, Alexander Township, Athens County, Cook & Co.'s second test on the C. P. Riley farm is dry in the Berea grit. In Lot 14, Franklin Township, Licking County, the Detex Oil & Gas Co. and others are drilling on the G. E. Cotterman farm.

In Meade and Washington Townships, Belmont County, the Natural Gas Co. of West Virginia is drilling tests on the Harriet E. Warren and Clark-Mooney farms. In Section 25, Archer Township, Samuel Crain & Co. have the rig completed for No. 5 on the J. I. and A. O. Finical farm. In Washington Township, Carroll County, the Natural Gas Co. of West Virginia is drilling a second test on the Jesse Harrington farm. In Laiden Township, Eaton and others are due in the sand on the Nelson E. Slates farm.

In Hopewell Township, Licking County, M. F. Whitehill is due in the Clinton sand at a test on the Francis heirs' farm. In Section 2, Fallsbury Township, Licking County, the Arkansas Fuel Oil Co. has completed Nos. 1 and 2 on the C. C. and Gladys L. Garrett farm. Each is good for 3 bbls. a day in the Berea grit. In Section 10, W. L. Brown & Co. are due in the sand at a second test on the G. W. Chapin farm. In Section 2, same township, the Margaret Oil Co. is drilling a second test on the Reuben A. Rinehart farm. In Section 19, Jackson Township, Knox County, the Whitmore property trustees have completed a test on the C. C. Conrad farm. It is a duster in the Clinton sand.

Holmes County

In Section 13, Killbuck Township, Holmes County, the Kemrow Co. has completed No. 3 on the A. C. Fites farm. It is a duster in the Clinton sand. One mile north of Hebron village, Union district, Licking County, Hazlett & Smith are drilling a test on the S. T. Hickland farm.

In Independence Township, Washington County, the Lauderbeck Oil Co. is drilling at 2,750 feet on the J. F. and M. Henselman farm. In Section 7, Lawrence Township, S. O. Herlan & Co. are due in the sand on the Lewis Baker farm. In the same section and township, George T. Gale and others are drilling a test on the J. H. Alexander farm.

In Section 15, Island Creek Township, Jefferson County, J. E. Turner & Co.'s No. 9 on the Sophia Kellemier farm is a 3-bbl. pumper in the Berea grit. In Section 6, same Township, Elliott Brothers have a duster in the same formation at a test on the Thomas M. Morrow farm. In Section 1, Washington Township, Belmont County, the Dollar Savings Bank has a light pumper on the George Kehm farm.

Guernsey County, for some weeks the principal source of new production, has not been keeping up the pace. It is now completing very few wells and offers but little new production. It is still the most active in operations, despite the fact that it is deeper drilling to the Niagara lime than in any other section.

Late Completions

In the southeast quarter of Section 24, Jefferson Township, Noble County, Joseph Saling & Co. have completed in the Clinton sand No. 4 on the Caroline Brotton farm. It is a natural producer good for 10 bbls. a day. In the northeast quarter of Section 12, Washington Township, Belmont County, the Natural Gas Co. of West Virginia has completed a test on the Clark-Mooney farm. It is a duster in the Berea grit.

In Section 2, Athens Township, Athens County, Daily & Son have completed a test on the John Sheridan farm. It is not good for more than 2 bbls. a day in the Berea grit. In Sutton Township, Meigs County, the Ohio Fuel Supply Co.'s test on the Carl J. and William Easterday farm is a 5-bbl. pumper in the same formation. In the same township, Creel Brothers have a light pumper at a second test on the George Karr farm. The Brewer Farm Oil Co. has the rig completed for a second test on the T. and N. Brewer farm.

In Warren Township, Washington County, S. A. Palmer & Co.'s No. 3 on the M. E. Coffman farm is a light pumper. Norwood Johnston & Co. are drilling on the Holmes heirs' farm. In Salem Township, the Hope Oil Co. has a duster at a second test on the D. W. Schramm & Co. farm. In Section 12, same township, W. F. Meister's test on the Lewis Lawrence farm is also dry. In Section 31, Aurelius Township, Beeson & Athey completed a duster at a second test on the Frederick Dibon farm.

In Section 5, Salem Township, J. C. Carner and others are drilling a test on the C. F. Ward farm. In Section 21, Aurelius Township, Jerry Buckley is drilling in the sand at a test on Biggs Hupp farm.

Southwest Pennsylvania

In Whitley Township, Greene County, the Philadelphia Oil Co. has a gasser in the Gantz sand at a second test on the Reason Johns farm. In Wayne Township, the Peoples Gas Co.'s test on the Jacob Eddy farm is being tested for oil in the fourth sand. In Franklin Township, the same company has a duster in all sands at a test on the Jesse Adams farm.

In Oakmont borough, Allegheny County, O. S. Drubbs and others have completed in the 100-foot sand a test on the O. S. Drubbs lot. The hole stands full of fluid.

West Virginia

On Big Paw Paw Creek, Paw Paw district, Marion County, the Owens Bottle & Machine Co. has completed a second test on the William Knight farm. It is a light gasser in the Gantz sand. On Phillips Run, Sherman district, Calhoun County, W. H. Bickel's test on the G. W. Hardman farm is a gasser in the Big Injun sand.

In Walton district, Roane County, E. C. Dillard & Co.'s test on the E. A. Humphries farm is a 4-bbl. pumper in the Big Injun sand. In Center district, Gilmer County, the Hope Natural Gas Co. has a gasser in the Big Injun sand at a test on the Louis Bennett farm. In the same district, the same company has drilled to the Berea grit an old well on the Ella Despard farm. It is a gasser in the lower formation. In DeKalb district, J. G. Roberts & Co. have a gasser in the Maxon sand at a test on the J. S. Beal farm.

Harrison County

In Simpson district, Harrison County, the Vesper Oil Co. has completed a fifth sand gasser at a second test on the Flavius B. Davisson farm. In the same district, the Hope Natural Gas Co.'s test on the L. P. Johnson farm is dry in all sands. It has been abandoned. In Elk district, the Vesper Oil Co.'s test on the Alva Shepler farm is dry in all sands. In Ten Mile district, the Aizpurin Oil Co.'s second test on the Patrick Dolan farm is a gasser in the Gordon sand.

In Carroll district, Lincoln County, C. C. Wolfe has completed in the Berea grit No. 3 on the M. M. Samuels heirs' farm. It is a gasser. In Jefferson district the Davis Gas Co.'s second test on the David Miller farm is a gasser in the same formation.

In Mannington district, Marion County, the South Penn Oil Co. has completed in the fifth sand at a total depth of 3,300 feet, a test on the A. and A. Lemley farm. It is a small gas well. In the same district, the Carnegie Natural Gas Co.'s test on the Luther Arnett farm is a light gasser. In Paw Paw district, the Hope Natural Gas Co. is fishing at a test on the Rebecca Tannant farm. In Mannington district, S. N. Elliott's second test on the L. R. Metz farm is a duster in all sands. In Battelle district, Monongalia County, the Snider Oil & Gas Co.'s test on the J. E. Snider farm is now through the fourth sand and dry.

Ritchie County

On Spring Run, Grant district, Ritchie County, Romeo G. Wiles has completed No. 8 on the West Virginia tract. It is so light in the salt sand as to miss the duster list by a small margin. On Hughes River, Clay district, the Roberts Oil Co. is drilling No. 5 on the Lenora Rex farm.

In Walker district, Wood County, the Forrest Cline Oil Co. has completed in the Maxon sand a second test on the J. W. Goodwin farm. It is good for 3 bbls. a day. In Union district, the South Penn Oil Co.'s No. 6 on the S. E. Masters farm is a 5-bbl. pumper in the Berea grit.

On Slocking Run, Sheridan district, Calhoun County, Godfrey L. Cabot has the rig completed for a test on the S. Stump heirs' farm. In the same district, the Hope Construction & Refining Co.

(Continued on Page 107)

WYANDOT COUNTY, OHIO, GAS WELL FEATURE IN LIMA FIELD WORK

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, June 27.—The four divisions comprising the Central West Field, being Lima, Central Ohio, Indiana and Illinois, only reported 23 completions since the last report, 8 of them being dry, 2 gas wells, and 13 producing wells with a combined initial of 115 bbls.

The outstanding feature was the bringing in of a 2,000,000-foot gas well on the Cooper lease, in Ridge Township, Wyandot County, and the abandoning of the deep test that has been so closely watched for months on the Bruns farm, in Woodville Township, Sandusky County, which was sent down to a total depth of 2,822 feet, or 1,645 feet below the top of the Trenton Rock, without finding any indications of a producer. Both the gas well and deep failure are in the Lima Field.

The best oil producer was found in Killbuck Township, Holmes County, in the Central Ohio gas belt, on the C. P. Allison lease, for 45 bbls. initial, while Richland Township, same county, developed a 2,000,000-foot gas well in a test on the Melvin V. Purdy lease.

No part of the Central West Field shows any renewed activity at this time as weather conditions are not such that work can be done to any advantage and very little warm weather has been experienced so far during the season.

Lima Field

The deep test drilled by the Ohio Oil Co., in the northwest corner of the William H. Bruns farm, mapped as the A. Blank farm, in the northeast quarter of Section 9, Woodville Township, Sandusky County, north of Woodville and between that town and Genoa, has at last been completed far below the Trenton Rock without the finding of commercial production. The top of the Trenton was found at 1,177 feet and the total depth of the hole is 2,822 feet, or 1,645 feet below the top of the Trenton. This is the deepest test so far as known to be made within the defined limits of the Lima Field. No check has yet been made of the formations below the Trenton, which is usually found to be around 800 feet thick, the total depth of the hole being somewhere in the Cambrian formation or between the upper and lower Cambrian. The last 100 feet of drilling was in a formation of about 30 per cent granite where drilling was slow and tedious, hence the abandonment at that point. Possibly other deep tests will be made in other parts of the Lima Field, especially along the south shore of Maumee Bay, just east of Toledo, in Lucas County, and probably another will be sunk along the famous "Hog's Back" or "Sucker Rod Belt" in Wood County, where gushers galore were found in the middle nineties. As an oil man stated recently the oil naturally comes from below the Trenton Rock at some point and the spots where the big gushers in the early days of the field were found might be the logical point to go for some unknown deep pay sand.

Gets Unlooked-For Gas

One of the important of the late completions in the Lima Field was that made by the South Bend Products Co. in well No. 2, located 540 feet from the north line

(Continued on Page 107)

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Tennessee Has 20 Bbls. an Hour Well

Another Jefferson County Producer Makes 100 Bbls. Daily. Clay County Wildcat Showing Better Than 50 Bbls.

By Whit
Staff Correspondent, Kentucky-Tennessee

BOWLING GREEN, Ky., June 25.—Nothing startling comes from Kentucky-Tennessee Field since the last report with the exception of a fine producer found in Jackson County, Tennessee, No. 5 on the W. Rad Hawkins lease on Lock Branch of the Cumberland River, which at a depth a few feet shy of 400 feet flowed at a 20-bbl. an hour rate, while No. 3 is said to be better than a century producer. These two wells help materially to maintain the production in the two states, although a well good for 185 bbls. was uncovered in the Ambrose Pool in Ohio County, Kentucky, which is No. 3 on the Sally Early lease and No. 7 on the Mary J. Elmore lease, same pool, is a 175-bbl. initial producer. No. 4 on the J. I. Batlett lease, same pool, showed an initial of 80 bbls.

A wildcat venture on the Mrs. Coffee farm on Holly Creek, 10 miles northeast of Celina, in Clay County, Tennessee, is reported showing better than 50 bbls., which eventually means another new pool. Just now the Lock Branch Pool is attracting the most attention of any Tennessee development outside of the Mill Creek development near Celina, where the Ohio Oil Co. drilled some deeper on its old well on the J. Will Pennington farm, where the best pay yet found in that field was struck, the well flowing high above the mast of the drilling rig and when connected to tankage filled a 250-bbl. tank full in a very short time, then flowed several hours on the ground. This particular well has been on the pump for many months producing from a more shallow sand, indicating that numerous pay sands prevail on the Mill Creek structure discovered by John H. McClurkin a year or so ago.

Another interesting find in Tennessee is the well drilled by John H. McClurkin on the Doctor Tucker farm on Long Fork Creek, approximately 6 miles west of Red Boiling Springs, where seven separate gas veins were encountered at a shallow depth of only 400 feet. The well is yet uncompleted owing to the great pressure, which lifts the tools from hole, causing much damage to the tools and rig.

Week's Work

A summary of the week's work in the Kentucky-Tennessee Fields show 15 completions, 12 producers with an initial production of 952 bbls., 3 dry holes and no gas wells. Compared with the previous week there were 2 less completions, 1 more producer, 406 bbls. more production and 3 less dry holes. These wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry
Barren	5	5	37	0
Ohio	4	4	465	0
Warren	3	0	0	3
Kentucky	12	9	502	3
Tennessee—Clay Co.	1	1	50	0
Jackson Co.	2	2	400	0
Total	15	12	952	3
Last week	17	11	546	6
Difference	2	1	406	3

Eastern Kentucky

Eastern Kentucky operations continue to lag, with only some counties containing the drilling forces, and no completions were recorded during the week. The Petroleum Exploration Co. is starting an interesting test in the Island Creek area of Owsley County. Several days ago a force of men went into that part of the county to start a well near the big producer found some months ago by the Monroe Oil Co. on the J. F. Brewer farm, which developed into the greatest gusher ever opened in the Blue Grass State, at least for a few days until it quit flowing. It is estimated that this gusher was good for 250 bbls. an hour when first struck, and the second 24 hours put out crude at the rate of 75 bbls. an hour, all the crude or most of it going down Island Creek. The well to be drilled by the Petroleum Exploration Co., according to advices, will be on the Peters farm, adjoining the Brewer farm.

Western Kentucky

Barren and Ohio Counties are the leaders in development in the western division of Kentucky, while Warren, Allen and Daviess Counties, along with Cumberland County, are rather quiet. The best wells are being found in the Ambrose Pool in Ohio County, and attempts are being made to extend the pool in some particular direction. Dry holes have been drilled, but do not signify anything, as big producers have been found close by. Much leasing is being done in all parts of the various counties in the northwest-portion. Thousands of acres have been leased up recently, and surrounding the Ambrose Pool for many miles a property not leased is hard to find. Leasers are now working in McLean, Webster and Union Counties. Edward Murray has secured a large acreage in McLean County, while B. S. Kelly of Whitesville has secured a large acreage in Union and Webster Counties. Oil has been found in limited quantities in all three counties, but indications look to an extensive exploitation there shortly.

Ohio County

The best completion for the week in Ohio County was made by the Creek Drilling Co. in No. 3 well, 150 feet from the north line and 400 from the west line of the Sally Early farm, south of the J. W. Weller 110-acre lease. In this well a string of 633 feet of casing was set. The sand was found at from 633 to 674 feet and drilled to a total depth of 684 feet and shot with 170 quarts, the first 24 hours' production amounting to 185 bbls. No. 4 is under way.

Wood Oil Co.'s No. 7 well, 200 feet from the south line and 800 from the east line of the Mary J. Elmore 100 acres, northwest of the Weller farm and west of the Scott Ambrose farm, set a string of 660 feet of casing, found sand at from 660 to 710 feet and went to a total depth of 719 feet, with a shot of 180 quarts resulting in a first 24 hours' output of 175 bbls. No. 8 is under way. Same company's test on the Ralph farm, 4 miles southeast of the Ambrose Pool, three-quarters of a mile from Sunnydale, and 900 feet from Lang and others' test on the Widow Wilson farm, south of Rough River, is reported showing around 20 bbls. Same company is working at No. 7 on the Deane and Deane farm in the vicinity of Collier Station.

Ambrose Pool

In the Ambrose Pool, south of the Weller farm, Lee and Engle's third well, 275 feet from the north line and 40 from the east line of the J. I. Bartlett 100 acres, cased at 648 feet, struck 38 feet of sand between 648 and 686 feet and drilling to a depth of 688 feet, with a 150-quart shot, made an 80-bbl. initial producer.

In the Midkiff Pool, the White Plains Oil & Gas Co.'s fourth well, 200 feet from the south line and 700 from the west line of the Howard heirs farm, and 400 feet north of No. 1 Ura Howard farm, is a 25-bbl. initial producer. A string of 420 feet of casing was set. The first sand was found at from 348 to 356 feet and the second sand from 438 to 450 feet, and sent to a total depth of 497 feet and shot with 80 quarts. No. 5 is starting up.

James C. Ellis has his Nos. 17 and 18 on the J. R. Weller 110 acres in the Ambrose Pool in the sand, and like the other 16 wells they show for around 100 bbls. or better, there not being a failure drilled on the lease, which is the richest lease in any part of Kentucky at this time.

Doctor Lang and others are nearing the sand with a second attempt on the Widow Wilson farm, 4 miles southeast of the Ambrose Pool on the south side of Rough River.

One of the late entries into the Ohio-Daviess-Hancock Counties areas is the Globe Oil Co. of Lima, Ohio, whose representative, J. H. Crouch, who is looking over the three counties with a view of securing desirable leases and to enter the drilling operations on an extensive scale. Mr. Crouch has just come from the Tennessee Field, where he was quite successful.

Daviess County

Thompson & Tremor's well on the John H. Miles 57 acres, adjoining the John Roby farm to the west, is drilling in what shows for a fairly good producer and indicates a widening out of this particular pool beyond the heretofore proved territory. The Roby Pool was opened by the Leeper Oil Co. some weeks ago. This pool is southwest a few miles from Pellville.

Barren County

Barren County, like Ohio County, is maintaining its usual activity. In what is known as the South Fork Pool, the Baird Oil Co.'s No. 10 on the Baird farm produced 11 bbls. initial at a shallow depth of 181 feet.

In the Lecta Pool, Baird & Blair's second well on the Johnson farm pumped 10 bbls. at 520 feet after given a 20-quart shot.

Phil Kopel's No. 5 on the Wilson farm in the Emery-Moore Pool was given a 30-quart shot, bringing in a well good for 8 bbls. initial.

The Little Colonel Oil Co.'s No. 9 on the Tom Smith farm in the Gorby-Haywood Pool pumped 5 bbls. at 394 feet. In the Coral Hill area, the Esslinger Oil Co.'s No. 7 pumped 3 bbls. at 404 feet after a 20-quart shot.

Warren County

Southwest of Bowling Green in Warren County, the Lucky Strike Oil Co.'s second well on the C. B. Amos farm proved a dry hole at 465 feet. In the same area. J. H. Wright got a duster in No. 12 on the Ben Ford farm at 150 feet.

The New Domain Oil & Gas Co.'s test on the W. F. Thomas farm, 4½ miles east of Bowling Green, was a duster at 675 feet.

No new completions were reported from the Scottsville Field of Allen County, nor in the Cumberland-Monroe-Clinton County areas.

Simpson County

Simpson County, Kentucky, expects to stage a comeback in the oil industry, according to the Franklin Favorite of that county, which says:

"The most progressive days Franklin and Simpson County ever enjoyed were those of the oil boom, when representatives of the Ohio Oil Co., other large oil companies and hundreds of individual developers were here in search of oil.

"The story has often been told and is

(Continued on Page 99)

ONLY THREE SAGINAW COMPLETIONS WHILE TESTS ARE DRILLED DEEPER

By Whit

SAGINAW, Mich., June 24.—Only three completions were reported in the Saginaw Field for the week and they are all owned by the Saginaw Prospecting Co. No. 2, on the Hanson farm, on the Shattuck Road at the northern edge of the city of Saginaw, struck top of Berea sand at 1,816 feet and drilled 19 feet in the sand and stirred up by an 80-quart shot, resulted in an average initial producer around 25 bbls. No. 3, on the J. C. Brechtelsbaur farm, at Hermansau and Madison Roads, struck top of sand at 1,810 feet and is also showing for 20 bbls., while No. 3, on the Northmoor Subdivision, is showing for 20 bbls.

Numerous of the new wells drilling that find pay in the Berea sand are on the way to the next sand, the Saginaw formation and if no better production is encountered there, some go on to the lower Dundee, and if that sand fails for a commercial production, the well is then plugged back to the Berea where production is known to exist in most every hole drilled within the defined limits of present production.

Quite a few wells are drilling close to the Berea sand and, if not drilled for a lower sand, should be completed during the next week. Among them are the Saginaw Prospecting Co.'s No. 1 on the Eddy estate, near the foot of Fitzhugh Street, on the east bank of the Saginaw River, which is down close to 1,000 feet, and No. 2 on the same estate but on Davenport Street near the Pere Marquette Railroad, is on top of the sand. William M. Bradley & Son's No. 1, on the Henning Sausage Co. property, foot of Fitzhugh Street, on the east bank of the river; Fordney Petroleum Co.'s No. 1 Fred A. Gardner property, west side of Michigan Avenue, between Genesee and State streets; same, No. 1, on the Seymour property, on North Oakley Street; same company, No. 1 Greencorn property on North Bond Street, and No. 3 on the Ace Park Ball Grounds. Same company's No. 1 on North Fayette Street, between Davenport and Cronk Streets, is being plugged back to the Berea sand.

Field Pickups

Michigan Petroleum Co.'s Rogner well, on the King Road, about 6 miles east of the Dixie Highway and southeast of Saginaw, has passed through the Saginaw sand dry, and is now being drilled to the Dundee sand. The well got the top of the Saginaw sand at 2,298 feet with 25 feet of sand and at last report was down close to 2,400 feet.

Wayco Oil Producing Co. is down around 2,700 feet on its No. 2 on the Braun property, north of Weiss and east of Eddy Streets, and should reach the Dundee at close around 3,000 feet.

A. W. Benjamine, trustee, which has good production in both the Berea and Saginaw sands on the Benjamine property, at the corner of Michigan and Irving Avenues, is being drilled down to the Dundee sand, and at last report was at a depth close around 2,500 feet.

Frank H. Higgenbottom, trustee, drilling on the Householder farm, in the northwest quarter of Section 12, Carrollton Township, and northeast of produc-

(Continued on Page 108)

Heavy Duty . . . from the Bearings

The Tico Heavy Duty Reverse Clutch is made capable of heavy duty by a total of sixteen Timken Bearings in the right and left pulleys, right and left large pinions, right and left small pinions, and pump pulley pedestal. Every combination of thrust, shock, weight and speed is present —but all are harmless against the highly friction-free, wear-proof operation of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS*, and Timken electric steel.

Exclusive Timken design and material makes it possible to provide tremendous capacity, most simply, compactly, *and permanently*. Gone are the power-waste and self-destruction of friction and misalignment. Perfect action is maintained merely by occasional lubrication.

These advantages are being demanded by manufacturers and users of every type of heavy machinery. Modern designs are quite invariably Timken-equipped.

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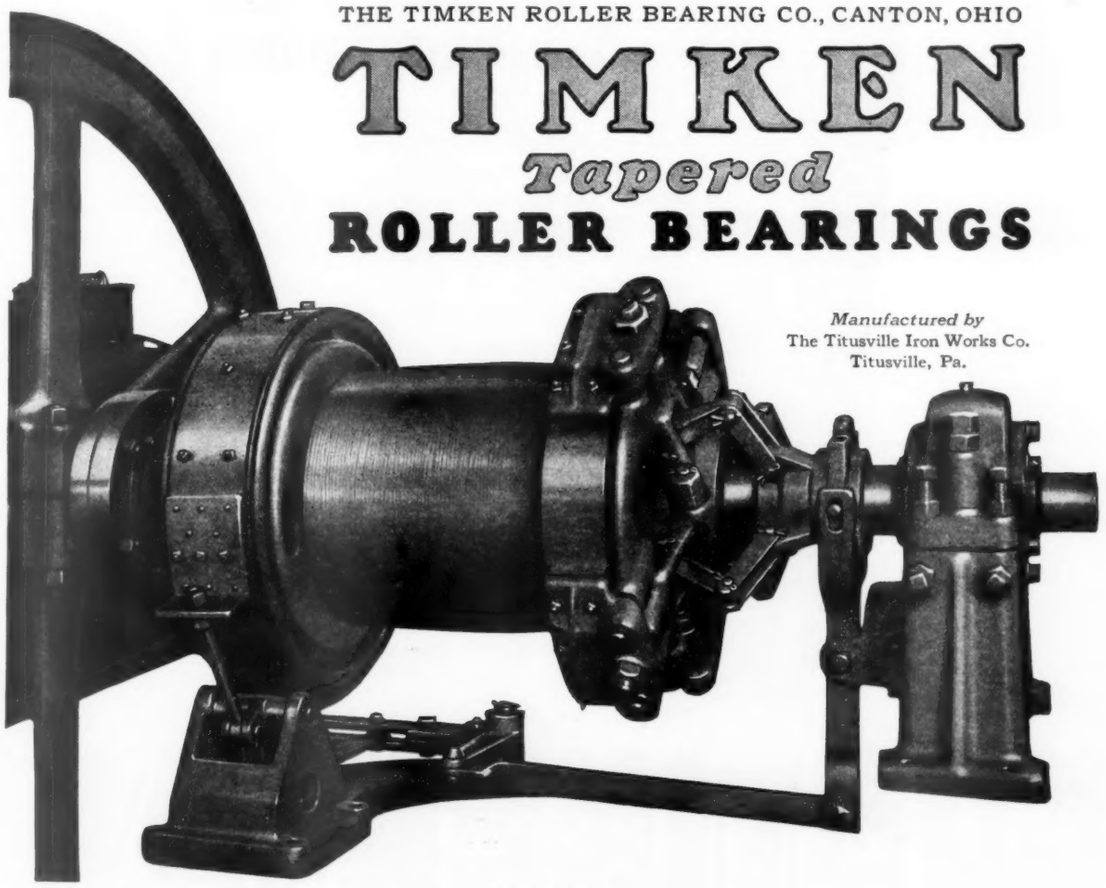

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MANIFOLD HOSE

An Improvement for Rotary Drilling

This manifold Hose has been perfected to provide a flexible connection between standpipe and pumps, in place of the rigid connection being used by many Rotary Drillers.

Use of this flexible connection will bring about (1) less strain on the pumps, (2) less vibration, which means fewer loose connections, (3) less danger from derrick's taking up too much swaying motion, (4) less noise.

This hose possesses all of the outstanding merits of Goodall Semi-Metallic Rotary Hose—including ability to stand highest pressures, exceptional flexibility, and capacity to withstand hardest usage.

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CONTINENTAL

Natural Gas Developments

GAS LINE TO DENVER AWAITING FRANCHISE

The proposed $22,000,000 gas line from Amarillo, Tex., to Denver, Colo., is already the recipient of close investigation on the part of expectant customers and the city council of Denver.

A franchise is now before the Denver city council to permit the use of natural gas by the Cities Service Co. and allied firms. This company already has in use a system for servicing the city of Denver with manufactured gas. It is proposed that the Amarillo natural gas line convey gas to the outskirts of Denver where it will be taken from the trunk pipe line and delivered through the mains already laid to the customers in Denver.

Objection has developed on the argument that the franchise asked for merely stipulates that the gas shall be paid for at the rate of 40 cents per 1,000 cubic feet at the point of delivery to the Denver system. It does not state clearly what the price shall be to the ultimate consumer. Some people are claiming this means a higher figure for the natural gas than is now being paid for the manufactured article.

In Cheyenne, Wyo., the Cities Service Co., through its subsidiary, the Cheyenne Light, Heat & Power Co., received a severe shock when the company changed from artificial to natural gas. The old mains in the Cheyenne system were laid with bell end, cast iron pipe, commonly used for this purpose, the joints being caulked with oakum. Artificial gas is wet, carrying so much moisture that drips must be provided all over the system to remove the condensate. On the other hand, the natural gas supplied to the Cheyenne city main service was very dry as it had already been passed through a gasoline plant at Fort Collins Field.

When this dry natural gas filled the mains in Cheyenne, it commenced to absorb moisture from the oakum caulking at the joints in the low-pressure mains and in about three months the number of leaks reported in the city system reached a total appalling to the officials in charge. Investigations were made and experts called in, but there seemed to be no other remedy than to dig up the mains and recaulk every joint. This is now being done and the cost is going to be around $50,000.

It is probable that the experience at Cheyenne has had some influence on the Denver charter and the Cities Service people wish to know whether they will have to tear up all their Denver mains that happen to be caulked with oakum, with the added cost that would mean close to the total cost of a new low-pressure system. At the same time the Denver public wants to know what the ultimate price of gas delivered to the consumers will be.

When the Denver city council met to consider the gas franchise the result was to lay the whole matter on the table until it could be investigated further. George Shaw, attorney for the Public Service Co., the Doherty subsidiary serving Denver with manufactured gas, presented the franchise for action by the council, but that body was distinctly antagonistic at the start. The result of the session was the appointment of the council as a special committee to examine into the situation thoroughly and it is expected that a gas expert or engineer will be employed to give the council information on the technical details involved.

Another snag cropped up when the meeting of the New Mexico and Colorado Coal Association was held at Denver. This body had for its principal topic at this meeting the discussion of some plan to compete with natural gas in Denver. It is expected that by the use of thermostatic control of heating plants the coal men can show the public that coal can furnish the same heat as natural gas and with no more disadvantage. Other plans to further the use of coal by the public are being broached.

GAS RATE KEPT DOWN TO INCREASE DEMAND

LOS ANGELES, Calif., June 25.—The State Railroad Commission has denied three gas companies serving southern California territory with natural gas a rehearing of a recent decision setting rates which did not meet with the approval of the companies. The companies are the Southern California Gas Co., the Southern Counties Gas Co. and the Midway Gas Co.

Coincidentally, with announcement of its determination to appoint a gas administrator for southern California, the Railroad Commission set a schedule of wholesale rates for the three companies. The rates were an increase of 1½ cents per 1,000 feet for wholesale gas supplied to the Los Angeles Gas & Electric Co. for further distribution, the rise going from 14 cents per 1,000 feet to 15½ cents.

The increases were not fully satisfactory to the companies, as they had requested a minimum of 17½ cents per 1,000 feet. When the order was handed down, the companies filed application for a rehearing in an attempt to get another increase. It was this application which was denied.

The commission's attitude, as explained, is that by leaving the rates where they are, it wishes to determine if it is possible to promote greater consumption of gas.

GREENWOOD COMPANY GAS GOES TO DIXIE

SHREVEPORT, La., June 25.—Organization of the Greenwood Production Co. by the Seagraves and Moody interests of Houston and Galveston, Tex., and the Thigpen and Herold interests of Shreveport, La., has been announced by local representatives of the new company. The new company is capitalized at $100,000 with the Seagraves-Moody combination owning a half and the Thigpen and Herold interests the other half.

The new company was organized to develop and operate gas properties in the Greenwood, Blanchard and Waskom district of northwestern Louisiana and northeastern Texas held by Thigpen and Herold and B. A. Hardy, trustee, and those acquired by the Moody and Seagraves interests who also organized the Dixie Pipe Line Co. and the Dixie Gas & Utilities Co., recently announced. Gas produced by the Greenwood Production Co. will be sold to the Dixie Pipe Line Co. and in turn will be disposed of to the Dixie Gas & Utilities Co. for distribution in several cities in eastern and southeastern Texas and to refineries at Beaumont and Port Arthur, Tex.

Officers of the Greenwood Production Co. are: J. A. Thigpen, president; B. A. Hardy, vice president; Eugene Harding, secretary, and S. L. Herold, treasurer. These with O. R. Seagraves and W. L. Moody, III, will comprise the board of directors.

EXPORT GAS SUPPLIES

Amtorg Trading Corp. of New York, announces that gas meters, regulators and other gas equipment valued at nearly $250,000, ordered in the United States, will soon be shipped to the Soviet oil cities, Baku and Grozny. Natural gas is found in abundance in the Soviet oil fields. It is now beginning to be utilized for the first time for household and refining purposes.

WEST VIRGINIA GAS COMPANIES MERGED

PITTSBURGH, Pa., June 25. — The West Virginia Gas Corp. has been organized to consolidate the properties of the Wacotock Oil & Gas Co., Martha Pipe Line Co., Oakland Development Co. and Tampico Gas Co., and also acquire a majority of the outstanding stock of the Monickel Gas Co. Through this consolidation, the West Virginia Gas Corp. acquires ownership or control of gas and oil rights in more than 50,000 acres of land in the gas-producing districts of Cabell, Kanawha, Lincoln, Logan, Putnam and Wayne Counties in the vicinity of Charleston and Huntington, W. Va. The companies have 77 wells with a total open flow capacity of natural gas in excess of 50,000,000 feet per day. Output in 1926 was more than 4,000,000,000 feet of gas, and for the first four months of 1927 more than 1,660,000,000 feet.

All of the gas being produced is sold under contract to the United Fuel Gas Co., Charleston-Dunbar Natural Gas Co., both subsidiaries of Columbia Gas & Electric Corp.; Columbia Carbon Co., and The International Nickel Co. The entire output of the Wacotock property, consisting of over 30,000 acres of land in Logan County, West Virginia, is under contract to the United Fuel Gas Co., the gas being delivered in the field and transported by the United Fuel Gas Co., through an 8-inch pipe line to the main lines controlled by Columbia Gas & Electric Corp. All of the gas produced by the Oakland wells is under contract to the Columbian Carbon Co., while that of the Tampico wells is under contract to the Charleston-Dunbar Natural Gas Co., a subsidiary of Columbia Gas & Electric Corp.

The International Nickel Co.'s contract with Monickel Gas Co. provides that its plant at Huntington, W. Va., will take, or pay for if not taken, a minimum of 90,000,000 feet of gas a month, except for limited periods during plant shutdowns.

GAS REFRIGERATION AS ICE COMPETITOR

Undoubtedly the most conspicuous feature of the development of refrigeration is the rapid expansion in the use of mechanical devices, particularly for household use, according to the Survey, published by the Guaranty Trust Co. of New York. It is estimated that mechanical refrigerating units now in use represent the equivalent of an annual ice consumption of 700,000 tons. The production of ice in the United States last year is believed to have amounted to more than 60,000,000 tons.

Although the use of gas and electric refrigeration will undoubtedly continue to increase swiftly, ice producers express belief that the use of ice has certain inherent advantages that will prevent the new methods from seriously affecting the development of their industry. The greatest of these advantages, of course, is economy.

The cost of both types of refrigeration varies greatly in different localities, but on the basis of average prices for ice and average rates for electricity and gas, it has been calculated that the cost of operation and maintenance for mechanical units compares favorably with the cost of ice. The deciding factor, however, is the relatively high original cost of the mechanical equipment. It is also maintained by ice producers that a certain amount of moisture is desirable for proper preservation of food, and that a large supply of ice available at short notice is a further consideration.

Manufacturers of mechanical refrigerating equipment, on the other hand, stress the greater convenience and cleanliness due to the freedom from ice delivery and from the necessity of drainage.

The growth of one branch of the refrigeration industry need not necessarily involve the decline of the other. There is ample room for both. The use of refrigerators of all kinds is probably much less general than is commonly supposed. In view of the fact that a refrigerator is generally regarded as very nearly, if not quite, a household necessity, it is interesting to note that there probably are only about half as many refrigerators as automobiles in use today in the United States.

LATEX FURNISHING GAS TO DALLAS INDUSTRIES

DALLAS, Tex., June 25.—Natural gas from Louisiana fields, piped to Dallas by the Latex Co., is now being used in a number of the leading industries of Dallas, F. M. Lege, representative of the company, announces. Thus actual competition in the supplying of gas for industrial purposes is now in effect, the other line being that of the Dallas and County Gas companies who are supplied gas from West Texas and Oklahoma by the Lone Star Gas Co.

The Dallas Power & Light Co., four oil refineries, the Texas and the Trinity Portland Cement companies are among those now using the Latex gas. The pipe lines of the new concern do not enter the city limits, all industries mentioned except the Dallas Power & Light Co. being outside these limits. The latter company has built its own line from its North Dallas powerhouse to connect with the main line in the West Dallas industrial district.

An industrial rate of 17½ cents per 1,000 feet is the lowest offered. The pipe line extends from the gas fields 225 miles east of Dallas. The route, generally, is parallel to the Texas & Pacific tracks.

AMARILLO PIPE BIG TRANSPORTATION JOB

Fifty thousand tons of pipe—100,000,000 pounds—will be used in the construction of the 20-inch natural gas pipe line the Empire Gas & Fuel Co. and affiliated companies are building to transport Amarillo gas to Kansas and Missouri. The estimated cost of this pipe is $4,000,000.

The largest pipe mills in the United States are exerting their maximum capacity for the manufacture of this order. Not only is it a night and day job for these mills to keep up with this order, but every type of transportation adapted to handling heavy freight such as this is being utilized. The first trainload was loaded at Youngstown, Ohio, and a string of barges is loading at Pittsburgh, Pa., for transport down the Ohio and Mississippi Rivers to Memphis, there to be transported by rail to the job.

NEW NATURAL GAS SERVICE

CHATHAM, Ontario, June 25.—It is announced that the Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary will supply gas to the town of Stavely, Alberta, the extension involving a 2-mile line to connect with the main high-pressure line and a local distributing system.

LONE STAR GAS TO AUSTIN

AUSTIN, Tex., June 25.—Lone Star Gas Co. of Dallas will extend its natural gas pipe line from Temple to Austin, 80 miles, if the city commission here grants necessary franchise for construction and operation of distributing system. The proposed extension will cost about $1,000,000.

EQUIPMENT AND SUPPLIES

OIL WELL SUPPLY CO. OFFICIALS VISIT PLANTS

Officials and representatives of the Oil Well Supply Co., traveling in special cars, visited the Imperial Oil Works at Oil City, Pa., and the plant of the Franklin Valveless Engine Co., at Franklin, Pa., and then went to Ellwood City, Pa., to inspect the seamless tube plant of the National Tube Co. Leading citizens and officials of the different companies composed reception committees at the different points visited and provided entertainment for the visitors, a golf tournament being held at Ellwood City and a banquet there in the evening at which addresses were made by Taylor Allderdice, president of the National Tube Co. and J. J. Kennedy, general manager of sales.

Among the Oil Well Supply Co.'s party were J. H. Hillman, Jr., vice president; D. J. Brown, vice president and general manager; S. Clarke Reed, vice president; E. W. Criswell, general counsel; M. L. Moore, assistant to president; E. E. Greve, chief engineer; W. B. Glover, general manager of sales; R. C. Stamets, manager tubular department; and the following district managers: Harry J. Morlang, Fort Worth, Tex.; Frank Weigan, Shreveport, La.; J. J. Durst, Casper, Wyo.; and John Post, Tulsa, Okla.

NEW TEXAS STORES

The Continental Supply Co. is about to open up two new stores in Texas. The Muenster store is 30 miles east of Nocona and will serve the trade in Cooke County. It is the nearest store to the Cooke County operations at this time and will not only take care of the Muenster territory, but the Gainesville territory as well. The Pyote store is in Ward County, 50 miles west of Odessa and 25 miles east of Pecos. This store will serve a vast territory as it is the farthest store point west on the T. & P. It will serve not only Ector County, Andrews County and all of Winkler County, but will also serve the new territory recently opened up by The Texas Company in New Mexico together with all of West Texas, west of Pyote to El Paso. Heretofore it has been necessary to drive either to McCamey or Best for supplies. This is a distance of approximately 150 miles, while with the new store, it will only be necessary to drive from 18 to 38 miles.

TRADE LITERATURE RECEIVED

From. C. J. Tagliabue Manufacturing Co. a copy of Catalog 942, just off the press, describing the new Tag-Mono indicator recorder. This new instrument is described as the result of 20 years of effort. Much useful information contained in the Mono catalog cannot be found anywhere else.

From Blaw-Knox Co., Pittsburgh, Pa., a catalog entitled, "Inundation and Central Mixing Products." This contains much valuable data upon the subject of making good concrete.

From the United States Electrical Tool Co., Cincinnati, Ohio, a booklet on that company's line of drills, grinders, buffers and polishers.

From the International Nickel Co., New York, a booklet entitled, "What governs your selection of pump rods?" It was prepared for engineers, plant officials and purchasing agents.

From Dean-Hill Pump Co., Anderson, Indiana, circular 403 describing in detail the construction of its new line of high efficiency double suction centrifugal pumps.

PRICES ON OIL COUNTRY GOODS AND PIPE BEING CLOSELY HELD

By B. E. V. Luty

PITTSBURGH, Pa., June 27. — The volume of business reaching the pipe mills has shown no particular change in the past week or two. Demand for standard pipe is fairly active and is only a trifle below that of a year ago, not more than about 10 per cent. Line pipe orders have averaged less in the past few weeks than formerly, but all the mills have some line pipe business on which to work and the three producers who make the largest sizes still have a good run, with deliveries to occupy them for several weeks to come. In casing and other well material demand continues very light, much below that of last year. There is no likelihood of any substantial increase in the remainder of the season, but there may be some little improvement.

Pipe mill operations on the whole are much below those of last year, and as there was considerably less than full employment then, the present rate is rather a light one, probably under 65 per cent of really full capacity. Some estimates of a 70 per cent operation or higher are made, but evidently they are based upon rather a low estimate of the total capacity.

Prices Maintained

Prices on standard pipe and oil country goods generally are very closely held by the mills, as all the mills are committed to a policy of avoiding any concessions, realizing that any irregularities would be dangerous as the whole price structure might eventually be undermined. Several other branches of the finished steel trade have shown in the past few years that when prices once soften it is difficult or impossible to get them up again and the pipe trade takes heed of these plain facts.

The steel trade as a whole has been turning still quieter, the volume of business decreasing from week to week. In some quarters the steel market is even called dull, but the expression is misapplied for there is still really a large volume of business. Orders are slightly less numerous in the aggregate and they are smaller individually, but there is no great decrease from rates of earlier in the year.

Of late the mills have had little backlog business on which to work, there being merely some rail orders to finish up and some orders for structural steel involving extended deliveries. Accordingly a good test of the volume of incoming business is the rate of mill operation, which may be set at slightly over 80 per cent, against 91 per cent in March, which was not only the peak month of the year but made a new high record for all time in the rate of steel ingot production. Some further decrease in mill operations is to be expected in the next few weeks, but in each one of the past three years production has increased in August and there is no particular reason for expecting this year to depart from these recent precedents. The low point is not likely to be as low as that of last summer.

Finished Steel Quotations

Finished steel prices are holding quite well. There has been no additional softening in the past few weeks. Nails and other wire products are irregular in various sections, as they have been for a long time, and bars, shapes and plates are weak in the East. Sheets and strips are holding very well at prices as advanced some time ago and various old orders as they run out are being followed by buying at higher prices.

The bituminous coal strike continues to drag along with no visible sign that conditions will turn in favor of the United Mine Workers, but there remain chances of enough striking being produced in West Virginia and Kentucky to alter the complexion of affairs. As it is there is an ample supply of coal and prices are unsatisfactory to producers.

Pig iron, coke and scrap remain dull.

E. E. NORQUIST ELECTED PRESIDENT BUTLER CO.

E. E. Norquist has been elected president and general manager of the Butler Manufacturing Co., Kansas City, Mo., and Minneapolis, Minn. Mr. Norquist succeeds Charles R. Butler, who has been elected chairman of the board of

E. E. Norquist

directors. Mr. Butler plans to leave soon for California where he expects to make his home.

Mr. Norquist has been closely connected with the company since its beginning in 1901. He was one of the original incorporators and was a mechanic in the little 25 by 100-foot shop, that first housed the company. Up to the past few years, Mr. Norquist has been interested mostly in the manufacturing end of the business. Every detail of manufacture is personally known to him. From the beginning of the company he served as plant manager. Later he became first vice president and plant manager. As first vice president he became interested in all phases of the company's business, and so, in taking on the duties of his new position, he is well equipped to direct the entire business from all angles.

Mr. Norquist's broad outlook is based on seeing the Butler Manufacturing Co. grow from a small shop with a small capital to one that covers 15 acres and a capitalization of over $1,000,000, and from shipments that covered only local and neighboring territory to world wide exportations.

AXELSON APPOINTMENT

Announcement is made of the appointment of D. H. Barnwell as assistant sales manager for Axelson Machine Co. of Los Angeles. He has been associated with the Axelson organization for eight years, serving in the various fields and particularly in the Bakersfield territory. Clyde Ellwood, general sales manager, has just returned from New York City and the Mid-Continent.

NEW TULSA WAREHOUSE AND OIL WELL STORE

Following its established policy of locating warehouses, retail stores, and other service facilities at convenient points, the Oil Well Supply Co. has erected an additional warehouse on First Street, Tulsa, Okla. This building houses the material and warehouse department, as well as the shipping department.

On the corner of First and Elwood Streets, a new retail store has been established. The arrangement of the store room is up-to-date, and its location is convenient in that it allows for ample parking space, on both First and Elwood Streets. Packers and all the other latest specialties are displayed.

This new store places the company in a position to give prompt and efficient service to all customers, particularly in view of the fact that its large manufacturing plant and shot is located in the same block. A further assistance is the location of the general district offices in the same building as the retail store.

Sam Redic, who has been with the Oil Well Supply Co. for more than 30 years, is now in the Tulsa store, where he will be glad to meet his many friends and assist them in any way possible.

This manner of tying up manufacturing, shop, warehouse, district office and retail service is a distinct advantage to the trade, as it means a considerable saving of time and trouble for buyers, as well as facilitating prompter service on the part of the company.

SALES ORGANIZATION CHANGES IN M. S. A.

The Mine Safety Appliances Co., Pittsburgh, Pa., announces the promotion of Edward H. Kellogg from assistant general sales manager to general sales manager. During the war, Mr. Kellogg served in the research division of the chemical warfare service and at present holds a commission as major in the chemical warfare reserve corps., United States Army. Mr. Kellogg attended George Washington University and is a graduate of Kansas State Agricultural College.

Other changes in the M-S-A organization include the appointment of C. W. Nelson as Kentucky representative with headquarters at 4,505 West Eighth Street, Cincinnati, and Ray H. Magee as southern West Virginia representative with headquarters at Mount Hope, W. Va. Mr. Nelson was formerly safety engineer for the Hillman Coal & Coke Co. and Mr. Magee previously was technical representative with the Grasselli Powder Co. in West Virginia. Other appointments include Beach M. Chenoweth and Thomas Brown as representatives for Tennessee and Alabama with headquarters at 650 Brown Marx Building, Birmingham, Ala.

PUMPING COSTS

The Byron Jackson Pump Manufacturing Co. has issued copies of a report showing a typical comparison of automatic motor-driven centrifugal and oil engine-driven reciprocating pipe line stations. This report was got out in connection with proposals which the Byron Jackson company made in Texas, and sets up this comparison on figures that were dictated and suggested by the pipe line company.

McCAMEY-INGLESIDE LINE

The Humble Pipe Line Co. has completed about 100 miles on its 10 and 12-inch screw line from McCamey to Ingleside (Corpus Christi). The Oklahoma Contracting Co. of Dallas, Tex., is ditching and treating the line.

For twenty years the Moore Tubular Steel Derrick has performed in a creditable—in fact a notable—manner. It is the oldest steel derrick in the field and has won the approval of oil men everywhere. Ease of erection and convenience in handling, strength, and long life are features of the Moore derrick which merit its position of leadership.

World Wide Service
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LEE C. MOORE & CO., *Inc.* PITTSBURGH · TULSA

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CASPER, WYO. SHREVEPORT, LA. EL DORADO, KAN. EL DORADO, ARK.

MEN KNOWN IN OILDOM

L. E. Barrows

Lee Earl Barrows, division manager for The Texas Company in the North Central Texas division, with headquarters at Fort Worth, Tex., has had a widely diversified training and experience in many phases of the oil business enjoyed by few executives in the industry. This training started at Olean, N. Y., the town near which he was born on March 5, 1882, and has included the designing and erecting of natural gasoline plants, the duties of chief engineer of The Texas Company's big Port Arthur, Tex., refinery, pioneer work in establishing the use of fuel oil throughout the country which culminated in the publication of his book on "Oil Fuel" in 1912, and contact with all departments of his company in the capacity of consulting engineer. This month Mr. Barrows completes his eighteenth year with The Texas Company. Since September, 1922, he has served as manager of the producing department of the North Central Texas division, the position he now holds. The headquarters were then at Cisco but were moved to Fort Worth last year.

Back in Olean, N. Y., Mr. Barrows' father was interested in production at Wellsville and Chipmunk in a small way. Mr. Barrows went to the Olean High School and later was graduated from Cornell University in mechanical engineering. During vacations he worked in pump stations.

In 1909, he came with The Texas Company as highway demonstration engineer of Texaco asphalt. The next year he demonstrated the value of fuel oil versus coal in boiler rooms from El Paso, Tex., to Boston, Mass., and conducted tests to determine the most efficient methods of using fuel oils.

Following this work, Mr. Barrows served under C. N. Scott as assistant consulting engineer of the Port Arthur refinery. From 1913 to 1919, he was engineer of the natural gas department at Fort Worth building gas lines, pump stations and natural gasoline plants.

His next job was that of superintendent of all casinghead gasoline plants and vacuum booster stations for the company in Texas, Oklahoma and Louisiana. He next became connected with the producing department as assistant to the manager and from that position was promoted to the general superintendency of the North Central Texas division and, in 1922, became division manager.

PERSONAL PARAGRAPHS

Phil K. Cochran, geologist for the Standard Oil Company of New Jersey, has returned to the United States after a two years' stay in Venezuela.

George J. Greene, of Tulsa, Okla., was a business visitor in Houston, Tex., recently.

* * *

Harry Pennington, of San Antonio, Tex., visited the Coastal regions during the week.

* * *

J. W. Townsend, who has been drilling in the Texas fields, arrived recently in Calgary, Alberta.

* * *

R. V. Hanrahan, president of the Humble Pipe Line Company, Houston, Tex., has returned from Colorado Springs, Colo.

* * *

Fred J. Spang, vice president of Spang & Company, tool manufacturers of Butler, Pa., was a recent business visitor in the Wyoming fields.

* * *

F. H. Wickett, chairman of the Pan American Petroleum & Transport Company, has sailed for a vacation in Europe. He will return in about six week.

* * *

W. T. Cushing, of the Dearborn Chemical Company, Houston, Tex., is in Colorado with Mrs. Cushing to escape the heat of South Texas.

* * *

W. J. Cheley, president of the Zero Hour Torpedo Company of Tulsa, Okla., has returned from a several weeks' trip to Denver, Colo., and Casper, Wyo.

* * *

W. H. Gaither, of the National Transit Pump & Machinery Company, with Houston, Tex., headquarters, has returned from a business trip to Shreveport, La.

* * *

H. G. Weaver, general manager, Burns Tool Company of Okmulgee, Okla., manufacturers of the Burns temper screw, has left for a month's trip to the eastern fields.

* * *

Joseph Regan, president of the Regan Forge & Engineering Company, has fully recovered from his recent illness and is again in active charge of general administrative duties.

* * *

H. A. Gump, secretary-treasurer of the Oklahoma Contracting Company of Dallas, Tex., has returned from a several weeks' trip to Mannington, W. Va., where he visited his sisters.

* * *

E. B. Reeser, president of the Barnsdall corporation, has just completed a tour of California fields accompanied by R. A. Broomfield, vice president in charge of California operations.

* * *

R. R. Brinkman, sales manager for the Shreveport Producing & Refining Corporation at Shreveport, La., has been visiting in Cincinnati, Ohio, and other middle western marketing points.

* * *

George B. Davies, sales manager of the Louisiana Oil Refining Corporation of Shreveport, La., has returned from a business trip to New Orleans, La., Houston, Tex., and other southern points.

* * *

D. P. Hamilton, vice president of Root Refineries, Inc., of Shreveport, La., has been making a tour of the principal cities in southeastern states where petroleum products of this district are marketed.

* * *

A. H. Carter, production superintendent of the Transcontinental Oil Company for East Texas, Louisiana and Arkansas, with headquarters at Mexia, Tex., was in Shreveport, La., and fields of this district the past week.

* * *

W. L. Moody, III, of Galveston, Tex., and one of the backers of the new Dixie Gas & Utilities Company and the Dixie Pipe Line Company, was in Shreveport, La., the past week looking after business for these companies.

* * *

Bert Cleveland, general sales manager of Regan Forge & Engineering Company, of San Pedro, Calif., has been in Oklahoma City, Okla., for two weeks laying plans for an expansion of business in the Mid-Continent and Gulf Coast areas.

* * *

J. Paul Getty left several days ago for New York where he expects to join his parents who made the trip from Los Angeles, Calif., through the Panama Canal. The entire party will sail shortly for a three months' tour of Europe.

F. K. Beach, of the Dominion Government service at Lethbridge, Alberta, has been transferred to Calgary to the office of C. C. Ross, supervisory engineer for the Department of the Interior.

* * *

Wesley Cunningham, assistant comptroller of the General Petroleum Corporation, was re-elected president of the Petroleum Accountants Society of Los Angeles, Calif. The first annual meeting, held several days ago, was preceded by a banquet.

* * *

J. P. D. Hull, executive secretary of the American Association of Petroleum Geologists and formerly chief geologist for the Louisiana Oil Refining Corporation of Shreveport, La., was in Shreveport the past week on his way to Stephens, Ark, to attend the wedding of his sister.

* * *

R. C. Rowan, general manager, H. H. Waters, chief engineer, and L. E. Williamson, Mid-Continent representative of Climax Engineering Company, Clinton, Iowa, have just completed an extensive trip through the Mid-Continent and Gulf Coast fields.

* * *

J. C. Rohlfs, manager of the marine department of the Standard Oil Company of California, has returned to the San Francisco, Calif., office after an absence of three months spent in Germany, France, England and Belgium, looking over the tanker situation.

* * *

Clyde M. Bennett, vice president of the Louisiana Oil Refining Corporation of Shreveport, La., and president of the Trinidad Oil Fields, Inc., producing company in the British West Indies, has moved his family to New York, where in the future his office will be maintained.

* * *

R. J. Eiche, sales representative in the oil well supply department of Vickers, Ltd., is returning to London on the Mauretania after a six weeks' visit in this country. Mr. Eiche is well known to supply men here. He is a native Californian, and spent most of his time while here on the Pacific Coast.

* * *

William Fry, in charge of the Maverick Springs, Wyo., operations of the Union Oil Company of California, has been promoted to field superintendent of the company's operations in the Big Horn Basin. Mr. Fry will move his family from Riverton to Thermopolis and take up his duties from that city.

* * *

William Alton Jones, for the past two years chairman of the executive committee of Henry L. Doherty & Company, has been elected first vice president of Cities Service Company. Mr. Jones has been with the Cities Service organization since 1912. Until he moved to New York in 1921, he was at Joplin, Mo., as treasurer of the Empire District Electric Company.

* * *

H. P. Bostaph, sales manager of the Texas Steel Company, recently announced that Paul Reid, formerly assistant purchasing agent for the Houston Oil Company, is now identified with the Texas Steel Company, as field representative, and that Dan D. E. Hudgings, of Shreveport, La., has been appointed district representative for the Texas Electric steel sucker rods in that territory.

* * *

The international golf tournament held at Oakmont, near Pittsburgh, Pa., attracted Oil City and Franklin fans. Among the Oil City visitors were S. Y. Ramage, director of the Columbia Gas & Electric Company, V. S. Swisher, secretary of the Southern Group of Pipe Lines, and Benjamin Williamson connected with the telegraph department of the same group, and French Miller, Franklin, vice president of the Galena Signal Oil Company.

* * *

Prof. A. W. Nash, head of the petroleum department of Birmingham, England, University, and A. W. R. Weatherhead, another British geologist, are to visit the Alberta oil fields. Subsequently they will be members of the party composed of members of the International Institute of Mining and Metallurgy, who will visit Alberta in the course of their cross-country tour. Present plans are that they will be in Calgary, on September 8, on their way to the coast and, coming back, will be in Edmonton on September 20.

"OILWELL" SPEED SUCKER ROD ELEVATORS

Designed after a careful study of methods employed in the use of sucker rod elevators as well as the duties which they must fulfill, "OILWELL" Speed Sucker Rod Elevators have the following superior features:—

The body is made in one piece, eliminating the use of plates held in place by screws which frequently cause trouble.

The body is made of heat treated steel and hardened which results in practically no wear in the slot carrying the sucker rods, even after years of service.

The body is reversible.

There is no toggle or hinge jointed mechanism.

Bail supports are made a part of the body.

The locking pin is of the plunger type and is self-cleaning, insuring perfect operation. Sand or paraffine will not clog it.

The operating handle is protected and can not catch on anything in the derrick.

The operating handle is sufficiently large to permit the operator when wearing gloves to insert fingers to unlock the elevator. There is no complicated locking mechanism to be tripped.

The elevator is balanced which insures quick and safe operation.

Maximum strength with minimum weight is due to construction with the shortest possible distance between trunnions.

Simple in design—Strong in construction
Efficient in operation

Patent Pending

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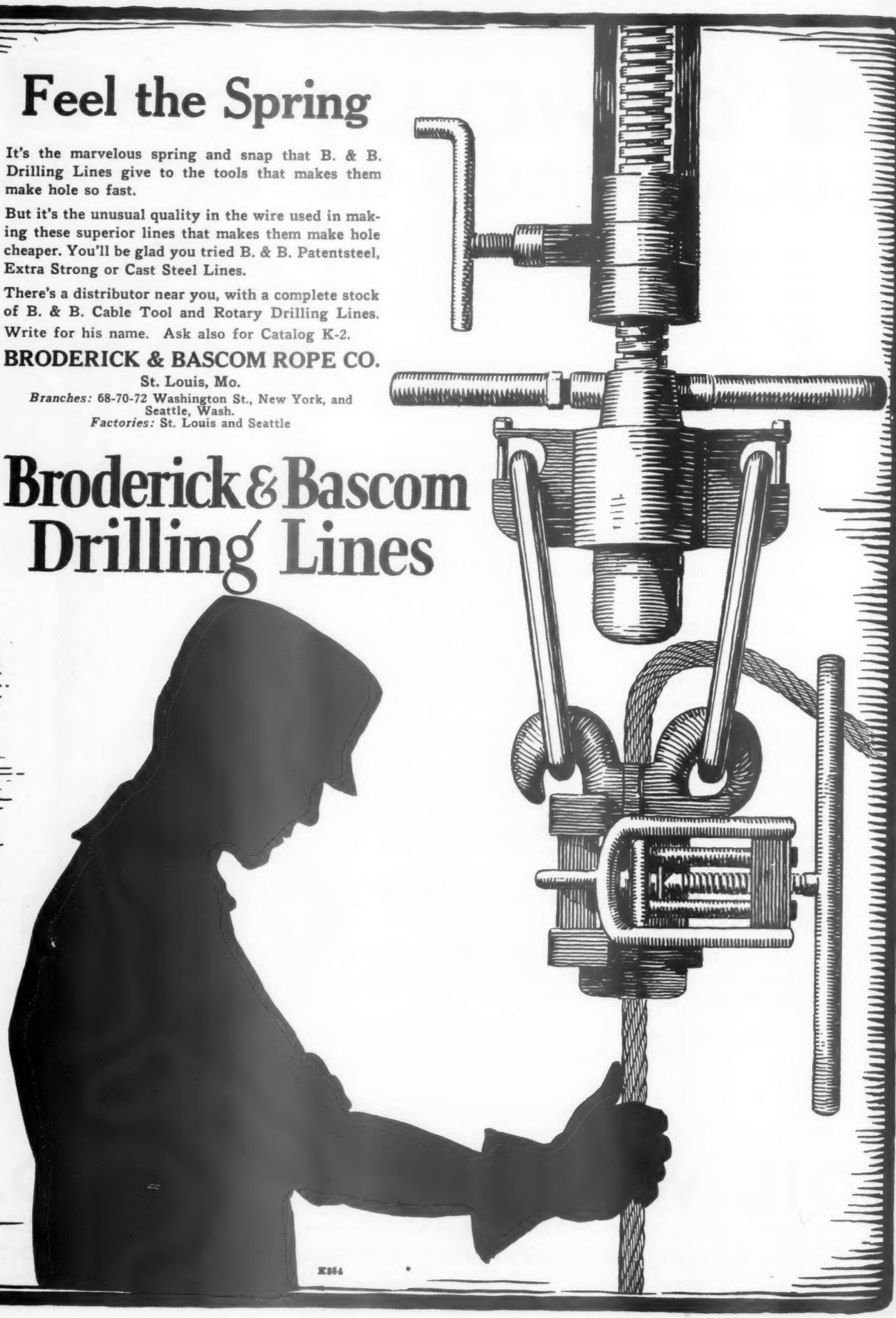


K864

Increasing Strength of Sucker Rods

Heat Treatment of Low Carbon Steels. Proper Materials and Fabrication. Deeper Drilling Requirements

By Welton J. Crook*

Professor of Metallurgy, Stanford University, California, and Consulting Metallurgist for D. & B. Pump & Supply Co.

As oil wells are drilled to and operated at greater and greater depths a rapidly increasing and insistent demand manifests itself for better and stronger equipment for the oil industry. In the past the industry has seemed to be contented with the materials supplied to it and has taken a philosophical attitude toward breakage and failure.

This attitude has now undergone a considerable change and this is probably for two reasons. First, the operating staffs have become better educated in regard to what may be expected from properly fabricated and treated steel and also they are becoming more and more familiar with the possibilities of substituting newer metals and alloys for the soft steel, wrought iron and brass with which they used to come in contact. Secondly, whether he wanted to or not, the operating oil man has been forced to seek better supplies to meet the physical conditions which have lately arisen, now that deep well operations have become common practice. The new equipment problems have to be met or else the idea of drilling and exploiting deep wells will have to be abandoned.

In looking back over the history of the oil industry it seems surprising that so few attempts at a technical study of the situation have been made. The very critical situation which has arisen with which you are all very familiar, due to breakage failure of sucker rods in the deeper wells, has been a compelling factor in a start being made to apply technical metallurgical methods in an attempt to solve the difficulties which have arisen.

Why Do Sucker Rods Break?

One of the first questions which arises is "What causes sucker rods to fail in service?" Apparently there are three causes which may be assigned. The matter of so-called "Crystallization" will not be included because this will not bear the scrutiny of modern technology.

Failure may occur because the material in the rod does not possess the physical strength to withstand the stresses imposed upon it. Again, cases have arisen where rods of good quality have failed because of abuse by the operating

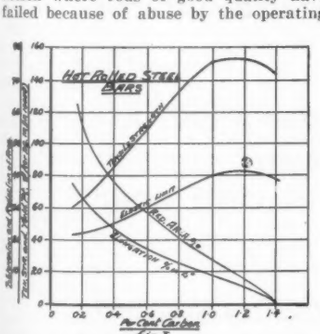


Diagram showing physical properties vs. carbon content.

force. Couplings and rod ends may be battered with heavy hammers so that cracking occurs. Rods may be nicked and twisted after withdrayal from a well so that, in places, the metal has been deformed beyond the elastic limit. In such cases great injury has been done to the rod. When such rods have been straightened again, a certain amount of crystal rupture and slippage has resulted, with the formation of what is known as "amorphous metal." This "amorphous metal" is hard and brittle so that rupture failure is liable to occur at such places where the rod is again placed in operation in the well.

Some cases of failure may be caused by improper fabricating methods and poor choice of materials on the part of

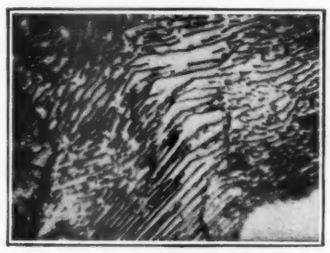


Figure 2. 0.40% carbon steel hot rolled bar 3000x.

the rod manufacturers, who, even though they buy rod material of good quality, may irreparably ruin it by improper heating and forging operations. This abuse of steel in fabrication causes the steel manufacturer much trouble with unjust complaints.

We may summarize the conditions under which sucker rods of optimum quality and usefulness must be produced.

(a) The steel bars from which the rods are manufactured must be of the best possible quality obtainable. The composition must be uniform from lot to lot; the proportions of carbon and manganese, etc., must be carefully chosen and maintained.

(b) The sucker rod manufacturer must carefully control his heating temperatures for forging, and all such operations should be under pyrometric control.

(c) The forging operations must be very carefully conducted with proper dies.

(d) Finally, the oil well operator must give the rods a chance to perform their work and not subject them to unnecessary abuse or strains.

What Is the Nature of Rod Failures?

This paper is primarily concerned with the improvement in the service which may be expected from sucker rods, especially under conditions of deep well pumping. More especially is it concerned with a discussion of the possibilities and results which may be obtained by the use of heat treated rods.

A complete discussion of the theory of the heat treatment of steel will not be attempted for obvious reasons, but as much will be attempted as is calculated to give some insight into the matter to those who are not familiar with its possibilities.

One of the first questions which is to be investigated is just what type of rod

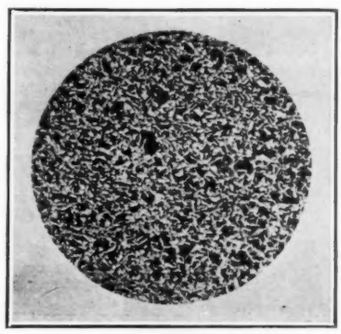


Figure 3. 0.405 carbon steel hot rolled bar 100x.

fracture occurs in the wells. Is this fracture caused by pure tension failure, or is it caused by some other type of rupture? It is believed that this question has not received much previous consideration.

A close inspection of a number of failed rods and pins from the fields will disclose the fact that although the steel is in many cases capable of withstanding a flat bend test, the actual rod fracture has the appearance of that of a brittle metal. The break shows no reduction of section such as is commonly observed in ordinary testing machine breaks. Such observations lead immediately to the conviction that tension failure plays but little part in the matter, and that the problem is one of "fatigue" failure. The present conception of "fatigue" failure may be defined as "failure caused primarily by the effects of alternating stresses which are generally of a magnitude much below the actual elastic limit of the metal."

Study has shown that failure by so-called "fatigue" is brought about by conditions which do not affect the metal as a whole but rather start a fracture at some particular point. The fracture so started then follows paths of easiest rupture until complete failure occurs.

Fatigue Failure

Bradley Stoughton has gone so far as to state that if repeated and alternating stresses are put upon steel, even though the load is far less than that which it can bear indefinitely, it will ultimately break down, from what is known as "fatigue."

Time will not permit a discussion of the various theories of the mechanism of fatigue failure. These theories are long involved, technical and controversial. To some they are far from convincing. We can, however, demonstrate practically that fatigue failure does occur. The University of Illinois Engineering Experiment Station is conducting the major work in this line today. Those interested may obtain bulletins published by this institution.

If it is a fact that rod and pin failures are due to fatigue, any attempt to improve the working quality must then be directed towards improving the fatigue

Figure 4. 0.40% carbon steel hot rolled bar 1000x.

strength of the steel of which the rod is made.

The actual determination of fatigue strength of steel is a very long and tedious operation. The usual tests are conducted on special machines in which a measurement is made of the load applied to a rotating beam specimen, which will just cause failure after one million alternations of stress. The alternations are applied at the rate of 1,500 per minute so that it will require about eleven hours

(Continued on Page 148)

*Before A. P. I. Standardization Conference at Colorado Springs.

URGES USE OF A. P. I. TUBING; ADVANTAGES OF STANDARDIZATION

By W. L. McLain*

Director of Production, General Petroleum Corp.

For two or three years the committee on pumping equipment and engines has given its best efforts to developing standards that, in the opinion of its members, represented best possible practice. The work has gone forward with a close cooperation between operators and manufacturers and the results are meant to express the best thought from each branch.

One of the first articles of equipment to be standardized was oil well tubing. The standards adopted have appeared to be so far superior to the several old styles of tubing that I have learned with much surprise and concern that some operators are not taking advantage of this work. I am sure the action of some operators in specifying special tubing instead of A. P. I. standard tubing must result from a failure to appreciate the many advantages of A. P. I. tubing or from a prejudice among a few scattered field men against adopting equipment different from what they are used to.

A. P. I. standard tubing has longer collars and longer thread engagement than any of the old styles and therefore is not only stronger in the joint when first made up but will stand more making and breaking of joints before wearing the threads to the danger point. Upset ends of A. P. I. standard upset tubing are long enough to permit rethreading.

The collars of A. P. I. standard tubing are recessed with enough clearance that the collars do not gall on the pipe but still, with the aid of the bevel at the bottom of the recess, guide the end of the tubing into the collar threads in perfect alignment. A. P. I. tubing will not start cross threaded.

Argument on Threads

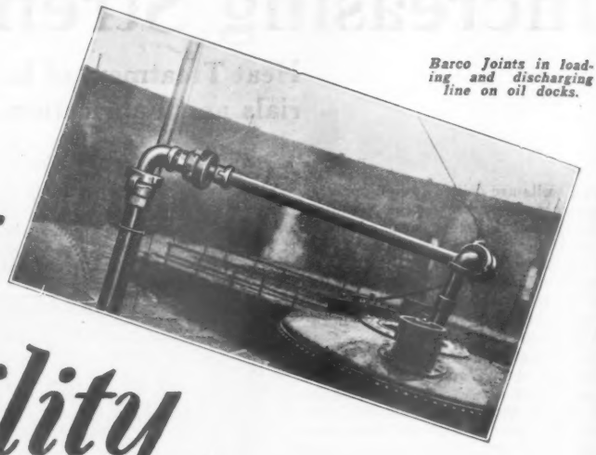
All regular or plain A. P. I. tubing, except 4-inch, has 11½ threads per inch in keeping with Mid-Continent practice, while all A. P. I. upset tubing has 10 threads in conformity with former California practice. Although a survey shows that all California operators are buying both plain and upset tubing to A. P. I. specifications, some Mid-Continent operators are specifying tubing with A. P. I. dimensions excepting for 10 threads on upset tubing and thus requiring the mills to manufacture a special upset joint with 11½ threads per inch.

The use of 10-thread upset tubing in California has been a practice of such long standing that arguments against its use have little weight. I have heard the assertion that 10-thread tubing should not be used because the deep threads weaken the wall unduly and because the coarse

(Continued on Page 154)

*Before A. P. I. Semiannual Standardization Conference at Colorado Springs.

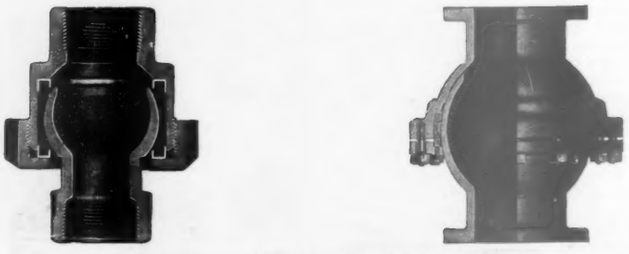
Barco Joints in pipe line, loading oil in a tank car.



Barco Joints in loading and discharging line on oil docks.

for Flexibility and Durability

Layout of flexible piping for loading tank cars.



Barco Joints are made with screw ends (shown at left) in sizes from ¼" to 6" and in flange ends (shown at right) in sizes from 4" to 48". They are made of malleable iron in sizes from ¼" to 3", of bronze in sizes from ¼" to 2" and of cast iron from 4" to 48". Barco Joints of all sizes can be made of special materials for special purposes.

ONE refiner reports that he has "never found anything to compare with Barco Flexible Joints on a loading rack for flexibility and durability."

Piping for loading oil in cars or ships must be flexible to allow the necessary connections to be made quickly. Barco joints fully meet this requirement. But such piping and connections for economy's sake must also be leakproof and must have long life and low upkeep costs.

The Barco design provides a ball fitting in the gasketed casing equally tight in all positions and with wear practically eliminated.

Years of service have demonstrated the truth of the conclusion reached by the refiner quoted above. Catalog No. 202 describes Barco flexible joints. Ask for your copy.

Barco Manufacturing Company

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O&GJ 6-30 Gray

FIRST INTEREST IN HELIUM DURING WAR

(Continued from Page 41)

the Navy Department, supplemented by an equal amount from the War Department. It was a 50-50 operation and the helium obtained by this activity was divided on the same basis.

The War and Navy appropriation bills for the fiscal year ending June 30, 1926, authorized those departments to acquire land or interest in land by purchase, lease or condemnation. They also authorized exploration to discover helium-bearing natural gas. This was the first authorization by Congress which permitted anyone in the Government service to proceed to acquire helium-bearing gas land.

During this session of Congress there was passed the helium bill of March 3, 1925, which turned all helium activities, including the acquisition of land for the conservation and production of helium, over to the Bureau of Mines which was then a part of the Department of the Interior.

Since the appropriation had been granted to the War and Navy Departments and authority had been given to the Bureau of Mines, an item was placed in the deficiency appropriation bill authorizing the transfer of funds from the War and Navy Departments to the Bureau of Mines for helium production.

By an executive order dated June 8, 1925, the Bureau of Mines was transferred by the President to the Department of Commerce, effective June 30, 1925, the same date on which the bureau took over the helium activities.

Government Appropriations

The War and Navy appropriation bills for the fiscal year ending June 30, 1927, appropriated money for the acquisition of helium from the Bureau of Mines, in such amounts, not to exceed $550,000, as might be determined by the President, and $65,000 held over from the previous year; and Department of Commerce appropriations carried $75,000 for helium investigations and conservation and for research.

The act of June 24, 1926, authorized the construction of two rigid airships of the capacity of 6,000,000 cubic feet each.

It was by this time evident that the helium gas from the depleted gas field at Petrolia, Clay County, Texas, could not continue to supply even the current requirements of the War and Navy Departments for their lighter-than-air activities regardless of the two large airships contemplated by legislation that had been enacted.

By the deficiency appropriation act, approved March 3, 1926, an appropriation had been made for perfecting the Government's holdings of helium producing gas on Helium Reserve No. 1, in Utah, in order that the Woodside structure might be set aside as a helium reserve. The Woodside structure is on public lands upon which certain permits were issued for private exploitation and a well had been drilled, so that it became necessary to purchase the rights that had been granted to private owners before the entire structure could be set aside without danger of drainage.

New apparatus of United States Bureau of Standards for the experimental purification of helium.

By the beginning of the second session of the Sixty-ninth Congress it was evident that, to correct the anomalous legal situation with respect to helium activities arising through the transfer of the Bureau of Mines from the Interior Department to the Department of Commerce, an amendment to the helium act of March 3, 1925, would be necessary. Such an amendment was introduced by Mr. Frothingham of Massachusetts, and finally enacted into law, by which authority vested in the Interior Department was transferred to the Department of Commerce, excepting with respect to the public lands.

Under the act, approved February 24, 1927, making appropriations for the Department of Commerce, there was included $1,063,000 to be immediately available for helium production and conservation, including acquisition of helium-bearing lands, with a provision that not to exceed $563,000 of this amount should be available for the purchase, lease, construction or modification of plants, pipe lines and accessories, compressor stations, camp buildings and other facilities for the production, transportation, storage and purification of helium and helium-bearing gas, including sites and rights of way by purchase, lease or condemnation, etc., all in accordance with existing law, and $75,000 was made available for investigations and research. At the same time, $300,000 was given to the Navy Department and $200,000 to the War Department for the purchase of helium from the Bureau of Mines.

The bureau is producing helium and selling it to these departments at cost. The bureau produces the helium which the Army and Navy uses, operates the repurification plants and stores and cares for the product. The bureau also conducts experimentation and research for the purpose of discovering helium supplies and improving processes of helium production, repurification, storage and utilization. All plants operated by the Government, or under lease or contract with it, for the production of helium, are under the jurisdiction of the Bureau of Mines.

To Assist Research

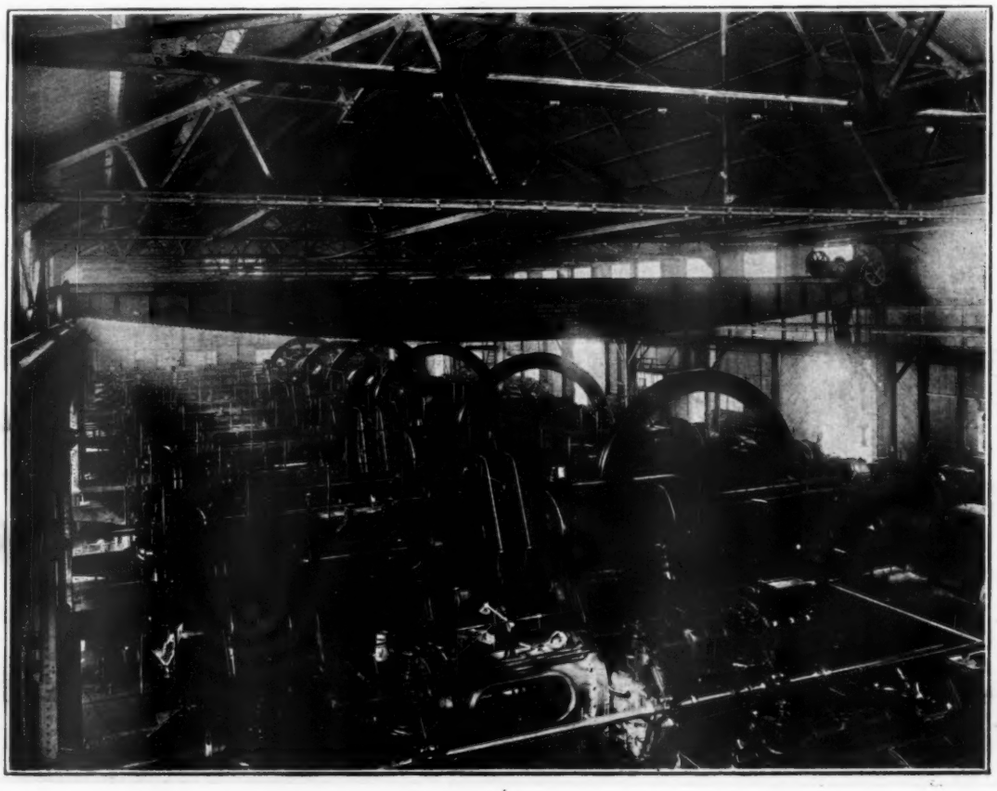
In order to assist universities or other institutions or persons desiring to conduct experiments with helium the law provides that limited amounts of this product may be turned over to them for that purpose. Even though no surplus exists, helium in any amount not to exceed 5,000 cubic feet in any one year may be so disposed of to aid scientific and commercial development, upon arrival by the Secretaries of War, Navy and Commerce, under regulations approved by the President.

In order that all helium produced in the United States may be kept at home, Congress enacted a provision by which no helium gas shall be exported except after application for such exportation to the Secretary of Commerce and permission has been obtained from the President of the United States on the joint recommendation of the Secretaries of War, Navy and Commerce. Any violation of this provision is made a misdemeanor to be punished by a fine of not more than $5,000 or by imprisonment of not more than one year, or by both such fine and imprisonment, and the Federal courts are granted jurisdiction to try and determine all questions under this section. This prohibition of exportation of helium indicates the great importance of this product for war purposes.

In no other part of the world, so far as is known, is there to be found any important large-scale supplies of this valuable, noninflammable gas. It is recognized as involving a distinct war advantage over every other nation that may desire to use lighter-than-air ships for war purposes. Not only does it safeguard against explosions such as might occur in the case of hydrogen in the operation of the airship, but also insures against explosion resulting from the gas bags being pierced by bullets. So important is helium now regarded in this country that it is becoming a well-established policy that there shall be no lighter-than-air ships flown when inflated by any other gas, whether it be for war or peace purposes.

Whatever legislation may be called for by a helium industry in future years, it seems certain that what Congress has done at this time is only a beginning and that further investigation will continue to place a demand upon Congress for additional appropriations to encourage extensive conservation of helium gas, both by maintaining carefully guarded reserves in the ground and by utilizing as far as possible helium that is currently being lost through the burning of natural gas without extracting this noninflammable portion of the contents.

INTERIOR VIEW OF LARGE GAS ENGINE COMPRESSOR PLANT



COOPER

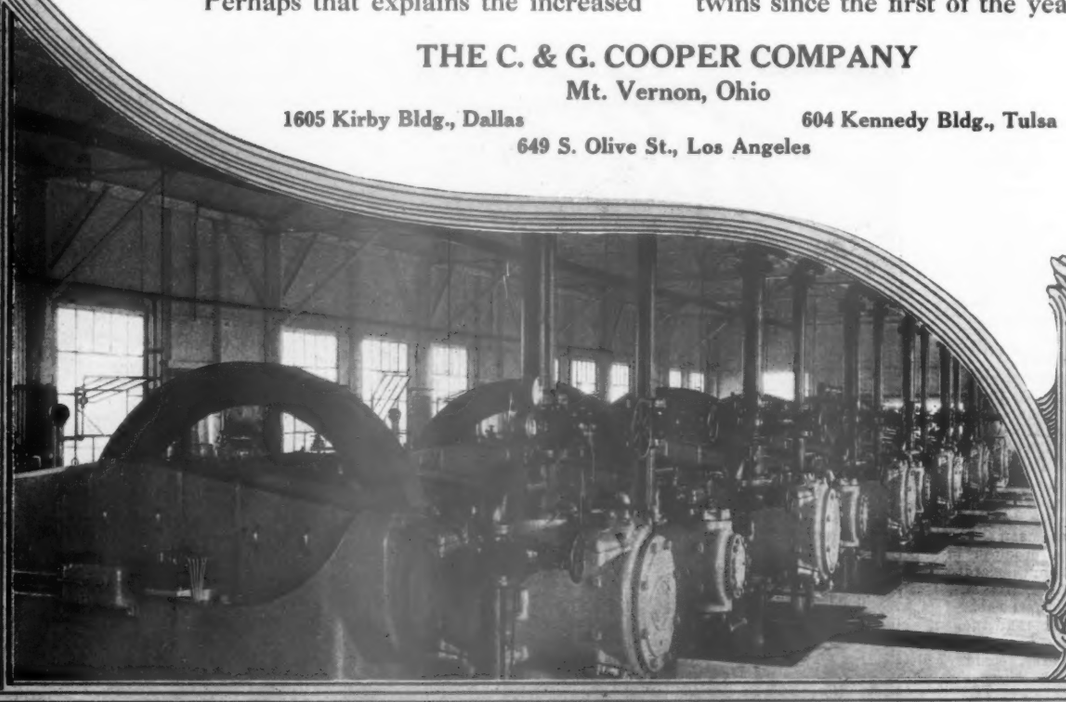
The Oil Companies That Have Been Making a Profit

When gasoline prices are low and there is a narrow margin of profit which threatens to disappear entirely, everyone from the president down is on the watch for ideas or suggestions to cut costs. Such times bring real opportunities for men in the ranks to show ability and judgment in choosing equipment which will cut operating expenses and bring them individual recognition.

Perhaps that explains the increased interest in the lower operating cost of Cooper gas engines and compressors. The constant demand, surpassing every previous record at a time when the oil business has been generally dull and engine and compressor requirements low, indicates that the companies which have standardized on Cooper equipment are the ones that have been making the profit. One oil company has installed forty-five Cooper 170 H.P. twins since the first of the year.

THE C. & G. COOPER COMPANY
Mt. Vernon, Ohio

1605 Kirby Bldg., Dallas — 604 Kennedy Bldg., Tulsa
649 S. Olive St., Los Angeles



Sinclair's latest plants have been built with Cooper engines. Photograph shows the compressor end of six Cooper Type 80's in their gasoline plant near Madison, Kansas.

Cadman on Tomorrow of Petroleum

Director of Anglo Persian Oil Co. Believes Future of Oil Will Far Outshine the Present

By Sir John Cadman*
Chairman of the Board, Anglo-Persian Oil Co.

It is a commonplace to observe that without petroleum there would be no motoring, no aviation. Were a supernatural hand to withdraw it from the earth today, more than 25,000,000 motor vehicles would instantly form a widely dispersed scrap heap. Without it another coal strike would not only shake the structure of our industrial existence, but might shatter it beyond repair. Without it the wheels of every factory would slacken and stop, and the proud navies of the world would fall derelict, permitting Heaven knows what grotesque "balance of power" to emerge from the resultant confusion. Without it, again, the hope of human progress, based so fondly upon the civilizing power of improved transport, would fade and evaporate; and last, but not least, a large proportion of the world's inhabitants would be robbed of that kindly artificial light and handy fuel which today bring comfort to the four corners of the globe.

Tomorrow of Petroleum

So much for today. Yet it is reasonably safe to predict that the "tomorrow" of petroleum, using the word "petroleum" in its most comprehensive sense, will far outshine even the brilliance that today attends its achievements. Aviation, and particularly the adaptation of the airship and the all-metal airplane and flying boat, will shortly herald the arrival of an important new stage in transport. Remarkable as may have been the marine use of oil during the past 15 years, there are indications that by the development of new processes, and of more economical methods, we shall shortly enter upon a much more scientific phase in the use of oil. The "trustification" of industry is no longer a current term of reproach. In these days, when ill-informed reference to the "oil combine" are sometimes bandied about, it may be as well just to remember that petroleum, from its nature, is a product that could be won, treated and distributed broadcast to the benefit of mankind, only because of the huge resources of capital and technical skill devoted to that great purpose. I venture to say that of all the mineral reserves laid up by nature for—let us trust—the use of mankind, there is not one more susceptible to waste and dissipation unless development is controlled by large organizations which, by virtue of their independence of the caprice of the market, are able to take long views.

Our particular quarry is rather the latter-day history of its development, and, in particular, two clearly-defined phases of that history. The first stretches from early Victorian days until the beginning of this century, and the second brings us up to date. But, let me pause a moment in order to round off the scope of our enquiry by posing the question—What will be the next phase?

What Will Be Next Phase?

I have already given you my opinion as to the certainty of more intensive development on lines that can already be discerned. But what will be the ultimate fate of petroleum, in relation, say to the destiny of coal as a producer of power? More than once I have recorded my conviction that, except within narrow limits, what has been called "the profound antagonism" of coal and oil is really a profound illusion. Even at present the two are very largely complementary; like cotton and wool, steel and concrete. In considering this point, I would ask you to regard petroleum in its very widest significance. Far from the revival of coal in this country sounding the death-knell of this great new industry, I think you will find, as time goes on, that except where coal possesses advantages in its natural state, it will tend to embrace and adapt the technical processes already far advanced so far as petroleum is concerned. Again, processes still in the experimental state may win through to proved success.

Thus we will come to welcome the dawn of a new era in which comparable oil products may well be obtained from coal as from natural oil. Under these circumstances, it will be possible for coal of the required characteristics—and by that I mean the great bulk of our potential coal production—to enter the refining plant in its solid form; by far the greater part of its calorific value and potential power will then be extracted and carried off in universally convenient liquid or gaseous form, leaving as a solid a residue of no heating value. I am not among those who await that era with anxious impatience because of any immediate fear for our resources of mined petroleum. Current talk about the exhaustion of our oil reserves is natural, but I think that recently it has been a little overdone. Nevertheless, the researches at present proceeding in the direction of deriving oil products from coal are of the profoundest interest today, and will be of direct practical value tomorrow. Here and there research has been followed by actual operation on a commercial scale as, for instance, in Germany, where brown coal (of which the quantity potentially available exceeds 200,000,000 tons per annum) is subjected to treatment which yields a particularly high quota of liquid fuels.

Be that as it may, or if for some unforeseen reason such a consummation is delayed or frustrated, it is safe to claim that natural petroleum as a world's influence, not so much in war, as upon the peaceful habits of civilized peoples, will come to be regarded as so potent and too pervasive as to be comparable to earlier world movements such as the revolution brought about by the invention of the steam engine.

American Leadership

Coming now to our review of the two periods of history which I mentioned, it is necessary to take note of an idea which is widely entertained, although I feel sure it is not accepted without question within these walls. I refer to the impression that, like mass-reproduction it industry, and prohibition as an aid to national morality, petroleum is somehow to be classed as an American invention. At first sight there seems a good deal of justification for that assumption. The very first well to be aimed at winning mined petroleum to be used as an illuminant was drilled in Pennsylvania in the year 1859; and since then the United States has had no difficulty in maintaining its position as the foremost oil country in respect of magnitude, of export, and of consumption. This, it seems to me, is primarily due to the fact that Dame Nature has been very kind to America in terms of geological deposits—a kindness, incidentally, which long preceded the Declaration of Independence; but I should be the last to deny the national genius of our American cousins for making the best of their opportunities. In their place, we should, I hope, have done no less.

Other countries, however, have done what they could. Mexico, the Dutch East Indies, Russia and Rumania—each has made and will in the future make a substantial contribution to world resources. Persia stands in a class by itself, alike

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*Address delivered recently in London.

Review of Royal Dutch Operations

Sir Henri Deterding Comments on Present World Petroleum Situation. Expresses Confidence in Industry

By Sir Henri W. Deterding*
General Managing Director, Royal Dutch Co.

The significance of the position of petroleum in the world today has still further increased. In countries showing sound development the motor car is certainly no longer an article of luxury, but a necessity for commercial and industrial life. Now that the aphorism "Time is money" is becoming more and more applicable, in connection with the ever-improving mechanical methods in the production of our daily necessities, the motor car must inevitably continue to rise in economic value.

And in fact we already see an enormous increase in the number of motor cars in use in different countries throughout the world; in the United States, where so many cars were already in use, in the past year the number even increased by about 10 per cent, the total number of motor cars, including commercial cars, now being about 22,000,000, while the world's total of motor vehicles is to be estimated at only 27,000,000. Whereas the United States, with its 110,000,000 inhabitants, employs 22,000,000 motor vehicles, the rest of the world uses only 5,000,000.

Air and Diesel Markets

Aerial traffic is developing more and more and, although the total quantities of oil products consumed by this traffic are so far not very great, yet it is to be predicted from the prospects of the future that it will prove to be a very large and important consumer before long.

The turnover of fuel oil in 1926 was greatly advanced by the prolonged coal strike in England.

The ever-increasing number of ships driven by Diesel engines causes a steady increase in the consumption of Diesel engine fuel. In the past year a number of new mail steamers of the very largest and most luxurious class were taken into service, all driven by Diesel engines. Furthermore, there are in course of construction at the present time a great many motor-driven cargo vessels and motor tankers—of which a large number are for our own service—in addition to several larger passenger ships of the same type, steamers becoming gradually old fashioned.

There is also an increase in the number of internal combustion engines in use both in small and large plants on land.

Hand in hand with the continual increase in importance of the internal combustion engine, both for motor vehicles and ships and for stationary factory plants, the quality of the fuel and lubricating oils used likewise becomes of greater importance. In connection herewith, with the help of a very extensive technical and scientific staff, we have made further progress in improving the quality of all our products and not the least of our lubricating oils, such not only to meet the consumers' demand but also to show them how to get the largest output from their machinery.

Good Roads Expansion

The use of automobiles on a large scale—mentioned above as being indispensable for social prosperity—also requires that suitable roads be made. The controversy over the question as to what sort of road is most suitable has now definitely been settled in favor of asphalt roads. Of course, in localities where road-making materials are to be had cheap on the spot, motoring roads may still be built here and there whereby little or no asphalt is used, but generally speaking it may be said that no good motoring road will be made without asphalt forming a considerable part of the materials used.

As a matter of fact the increase in asphalt consumption is remarkable, and but for the fact that in many cases the road builders are local or provincial government bodies who are often faced with lack of money, this increase would take still more rapid strides, which would benefit commerce in general.

Together with the improvement of economic conditions in the different countries and the realization that good roads are essential for the prosperity of everyone, the consumption of asphalt will show a further considerable increase. With good roads there will be more traffic, as a result, an increase in petrol consumption.

Demand Easily Met

The increased demand for petroleum products has easily been met. An important increase is reported in Venezuela, 78 per cent, making 5,327,000 tons.

In contrast with Venezuela, Mexico affords a striking example how irrational legislation can suppress a flourishing industry, with all its attendant consequences for the country.

The production in Russia, according to Soviet publications, amounted in 1926 to about 8,900,000 tons, against about 6,675,000 tons in 1925.

Although according to their publications production in Russia shows an increase (which need not cause surprise seeing that the Bolshevik Government has plucked the fruits of all the pioneer work performed by private initiative in former years, without ever paying the despoiled owners a penny by way of compensation) according to reports received by us conditions in the Russian centers are far from satisfactory, the production in Baku having fallen off from 402,900,0000 poods in 1917 to 365,336,000 poods in 1926. The state organization controlling the oil industry in Russia suffers from a permanent lack of capital, not only for the erection of new installations and to be able to keep pace with technical developments, but even for proper maintenance of the existing plants. Press reports from Russian sources repeatedly make mention of

(Continued on Page 141)

*From Annual report to stockholders, June, 1927.

WORLD CENSUS OF MOTOR VEHICLES ON JANUARY 1, 1927

(Continued from Page 40)

Country—	Passenger Cars	Buses	Trucks	Total Automobiles	Motor-cycles
Abyssinia (1)	100	.....	.....	100	.....
Aden (1)	510	90	35	635	120
Afghanistan (4)	85	.....	80	165	2
Alaska (2)	1,153	25	556	1,734	2
Albania (1)	353	.....	80	433	.....
Algeria (3)	24,242	721	2,888	27,851	793
American Samoa (2)	20	4	5	29	1
Angola (1)	700	2	750	1,452	100
Argentina (1)	205,000	1,110	16,500	222,610	2,971
Australia (2)	304,255	893	60,503	365,651	70,228
Austria (3)	12,400	400	7,800	20,600	21,300
Azores (2)	491	25	7	523	18
Bahamas (2)	649	2	227	878	5
Bahrein (1)	130	.....	.....	130	.....
Barbados (2)	1,054	76	81	1,211	151
Belgian Congo (3)	825	.....	750	1,575	550
Belgium (1)	53,270	1,000	43,000	97,270	30,000
Bolivia (1)	1,350	20	650	2,020	100
Brazil (1)	60,800	300	20,000	81,100	1,500
British East Africa (1)	5,500	.....	2,000	7,500	3,500
British Guiana (2)	986	47	68	1,101	136
British Honduras (2)	128	.....	34	162	1
British North Borneo (4)	55	.....	15	70	10
British Oceania, other (4)	70	.....	20	90	25
British Samoa (3)	151	8	85	244	9
British West Africa (3)	3,232	.....	6,003	9,235	3,407
British Somaliland	60	9	10	79	20
British Southwest Africa (2)	630	12	88	730	100
Bulgaria (3)	1,700	.....	800	2,500	400
Canada (2)	734,848	6,633	87,437	828,918	7,876
Canary Islands (3)	2,906	125	1,091	4,122	88
Ceylon (3)	8,599	2,008	1,528	12,135	2,812
Chile (3)	14,400	.....	3,600	18,000	150
China (1)	16,012	1,015	1,901	18,928	1,684
Chosen (Korea) (1)	1,208	.....	160	1,368	125
Colombia (1)	5,425	181	2,310	7,916	168
Cook Island (4)	45	.....	30	75	5
Costa Rica (2)	659	64	174	897	87
Cuba (2)	28,303	1,053	8,682	38,038	244
Cyprus (2)	723	1	141	865	238
Czechoslovakia (1)	20,000	600	6,500	27,100	18,000
Danzig (2)	1,076	72	426	1,574	664
Denmark (2)	61,813	850	17,024	79,687	20,000
Dominica (2)	26	.....	4	30	.....
Dominican Republic (2)	2,275	8	549	2,830	37
Dutch East Indies (3)	41,500	350	5,150	47,000	7,850
Dutch Guiana (1)	110	.....	10	120	40
Dutch West Indies (2)	585	3	169	757	17
Ecuador (2)	832	17	310	1,159	21
Egypt (3)	14,842	1,047	1,851	17,740	3,500
Eritrea (1)	95	.....	6	101	12
Estonia (2)	598	76	318	992	232
Faroe Islands (1)	12	.....	.....	12	.....
Fiji Islands (2)	619	4	114	737	107
Finland (2)	12,094	1,437	4,207	17,738	4,451
France (1)	585,000	26,000	280,000	891,000	155,000
French Guiana (2)	66	.....	34	100	6
French Indo-China (2)	7,479	.....	1,533	9,012	1,288
French Somaliland (1)	55	2	4	61	8
French West Africa (3)	2,101	.....	1,719	3,820	250
Germany (3)	218,000	6,000	95,000	319,000	287,000
Gibraltar (2)	466	54	57	577	57
Gilbert and Ellice Islands (4)	.....	.....	2	2	.....
Greece (3)	7,654	1,718	2,450	11,222	520
Grenada (2)	322	29	31	382	32
Guadeloupe (2)	379	85	43	507	81
Guam (2)	176	5	88	269	35
Guatemala (2)	1,337	50	182	1,569	162
Haiti (3)	1,764	10	200	1,974	8
Hawaii (1)	23,562	170	7,403	31,135	409
Hejaz (1)	9	.....	.....	9	.....
Honduras (2)	384	11	106	501	11
Hong Kong (1)	1,184	126	269	1,579	495
Hungary (2)	6,712	234	2,345	9,291	2,941
Iceland (1)	355	.....	.....	355	.....
India (3)	66,217	2,500	13,208	81,925	13,771
Iraq (3)	2,315	.....	209	2,524	208
Irish Free State (3)	29,331	301	6,015	35,647	8,567
Italian Somaliland (1)	75	.....	13	88	10
Italy (3)	104,882	3,295	30,000	138,177	64,576
Jamaica (2)	3,837	.....	1,146	4,983	371
Japan (3)	27,989	2,623	12,115	42,727	16,092
Latvia (3)	970	170	390	1,530	275
Leeward Islands (3)	193	.....	24	217	2
Liberia (2)	39	.....	34	73	9
Libya (2)	203	.....	238	441	140
Lithuania (2)	526	62	81	669	249
Madagascar (3)	859	19	182	1,060	667
Madeira Islands (1)	210	120	85	415	100
Malay States and Straits Settlements (1)	19,620	1,454	2,842	23,916	3,939
Malta (2)	956	124	128	1,208	363
Martinique (2)	1,231	16	214	1,461	73
Mauritius (2)	2,293	35	298	2,626	135
Mexico (3)	38,110	4,202	8,164	50,476	724
Mocadia (1)	56	.....	.....	56	.....
Morocco (Fr. (2)	7,882	.....	2,758	10,641	1,910
Morocco (Sp.) (1)	8,166	911	1,923	10,994	967
Netherlands (1)	43,094	4,000	22,000	69,094	43,520
Newfoundland (3)	1,197	11	141	1,349	61
New Zealand (2)	101,462	1,772	19,990	123,224	32,101
Nicaragua (3)	351	1	50	402	60
Norway (3)	21,100	350	8,870	30,320	7,900
N. Ireland (2)	13,318	.....	4,624	17,942	4,948
Nyasaland (2)	390	15	115	520	908
Palestine (2)	1,427	279	244	1,950	173
Panama and Canal Zone (1)	4,575	283	260	5,122	350
Papua (4)	90	.....	45	135	40
Paraguay (3)	412	119	180	711	.....
Persia (3)	3,500	50	900	4,450	380
Peru (1)	5,550	350	3,400	9,300	140
Philippine Islands (3)	15,903	2,077	4,345	22,325	707
Poland (3)	13,576	1,212	3,966	18,754	3,222
Porto Rico (1)	11,450	350	2,950	14,750	300
Portugal (3)	12,485	190	2,700	15,735	1,500
Portuguese East Africa (3)	500	8	100	608	200
Reunion (2)	704	1	93	798	85
Rhodesia (2)	4,000	20	300	4,320	1,000
Rumania (1)	11,900	1,700	3,100	16,700	750
Russia (1)	9,610	2,090	9,403	21,103	7,669
St. Lucia (2)	75	18	3	96	14
St. Pierre (2)	.....	.....	24	24	.....
Salvador (1)	1,250	50	150	1,450	100
Seychelles Islands (2)	12	.....	.....	12	28
Siam (4)	2,257	1,388	674	4,319	382
Society Islands (2)	301	9	55	365	41
Solomon Islands (4)	.....	.....	2	2	.....
Spain (1)	121,500	.....	13,500	135,000	9,000
Sudan (1)	600	78	171	849	219
Sweden (3)	77,000	4,000	18,220	99,220	28,000
Switzerland (3)	41,800	460	9,300	51,560	21,000
Syria (3)	3,854	39	269	4,162	60
Taiwan (1)	122	363	77	562	16
Tiber (4)	.....	.....	.....	.....	1
Tonga (4)	70	.....	55	125	8
Trinidad and Tobago (1)	2,675	571	240	3,486	531
Tunisia (2)	4,200	85	360	4,645	585
Turkey (1)	6,000	.....	1,500	7,500	500
Union of South Africa (2)	71,000	650	4,900	76,550	27,500
United Kingdom (3)	754,284	21,000	248,367	1,023,651	629,648
United States (2)	19,293,112*	80,000	2,764,222	22,137,334	*134,679
Uruguay (1)	25,050	25	4,985	30,060	532
Venezuela (3)	8,000	45	2,000	10,045	315
Virgin Islands (2)	333	4	55	392	10
Yeman (1)	11	4	.....	15	.....
Yugoslavia (1)	6,600	155	1,800	8,555	2,650
Foreign countries and noncontiguous territories: Total	4,225,816	114,374	1,172,743	5,512,933	1,591,562
Grand total	23,518,928	194,374	3,936,965	27,650,267	1,726,241

Key:
(1) Reliable estimates; official figures not available.
(2) Official.
(3) Semiofficial; based upon official figures for an earlier period than January 1, 1927, or upon official returns for part or parts of a country for which complete figures were not available.
(4) Obtained from the "American Automobiles" (overseas edition).

*Includes 135,941 cars and 3,133 motorcycles tax exempt as used by Federal, state and municipal governments.

WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 48)

COLLINGSWORTH COUNTY

Harmon & Deems' No. 1 Wilson (Scott), Sec. 44, Blk. 21.. Loc.; temporarily abd.
Wischkamper's No. 1 fee, C SE Sec. 93, Blk. 16 ..... S.D., 2,600 ft.

COTTLE COUNTY

Exploration Co.'s No. 1 Richards ..... Spudded.
Sun Oil Co.'s No. 1 Tom Burnett, C NW SE, Sec. 6, Blk. L, S. P. R. R. Sur. ..... S.D., 2,590 ft. for orders.

DALLAM COUNTY

James et al's No. 1 fee, Sec. 9, 47½ ..... S.D., 2,870 ft.
Harry Skelly et al's No. 1 Capitol Synd., Sec. 19, Blk. 17. Fish., 8-in. casing, 3,000 ft.
Mariand Oil Co. et al's No. 1 Capitol Synd., Sec. 36, Blk. 18, Capitol Synd. land ..... S.D., 950 ft.

DEAF SMITH COUNTY

Julian & DeGrace's No. 1 Mrs. R. A. Hindley, Sec. 47, Blk. K-8 ..... S.D., 520 ft. for casing.
Red Hill Oil Corp.'s No. 1 Barrett, Sec. 93, Blk. K-4 ... S.D., 710 ft.

DONLEY COUNTY

A. T. Drlg. Co.'s No. 1 F. E. Harington, Sec. 39, Blk. 3-C ..... 1,200 ft. water, 3,115-22 ft; show gas, 3,140-60 ft; dry granite wash, 3,260-93 ft; S.D., 3,498 ft. for water.

DICKENS COUNTY

Bowser Mickels et al's No. 1 Pitchford ranch, Sec. 1, Blk. 1, Sam Lazarus Sur. ..... S.D., 3,355 ft; corrected depth.

GRAY COUNTY

Atlantic O. P. Co.'s No. 1 Combs & Worley, NW cor. NE Sec. 39, Blk. 3 ..... Drlg., 2,295 ft.
Archer, Blake et al's No. 1 Turneau, Sec. 111, Blk. 2-B. Spudded and S.D.
Amos et al's No. 1 Crews, NW cor. Sec. 9, Blk. 25 ..... Show gas, 2,210-15 ft; 4,000,000 ft. gas, 2,270-75 ft; drlg., 2,312 ft.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B ..... T.D., 2,666 ft; gas shut in and mixing mud to kill gas.
British-Amer. O. Co.'s No. 1 J. E. Meers, Sec. 107, Blk. 3. 58,000,000 ft. gas and slight spray oil; S.D., 3,190 ft; will possibly complete as gasser.
British American Oil Co.'s No. 1 J. M. Patton, Sec. 61, Blk. B-2 ..... Rigged and S.D; temp. abd.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1 ..... Drlg., 3,850 ft. (no report).
Donley Gray Oil Co.'s No. 1 J. W. Gordon ..... Rigging.
Jack Doyle's No. 1 D. W. Osborne, SE cor. Sec. 109, Blk. 3 ..... Rig.
Edwards et al's No. 1 E. J. Case, NE cor. Sec. 182, Blk. B-2, H. & G. N. Sur. ..... S.D., 200 ft.
Empire G. & F. Co.'s No. 1 J. E. Cubine, NE cor. NW Sec. 26, Blk. 25 ..... 6,000,000 ft. gas, 2,342-60 ft; top granite wash, 2,397 ft; drlg., 2,483 ft.
Empire G. & F. Co.'s No. 1 J. A. Hood, SW cor. SE Sec. 33, Blk. 3 ..... Drlg., 2,229 ft.
Empire G. & F. Co.'s No. 1 J. M. Saunders, SW cor. SE Sec. 4, Blk. 3 ..... Drlg., 2,400 ft.
Empire G. & F. Co.'s No. 1 J. F. Meers, NE cor. SE Sec. 107, Blk. 3 ..... T.D., 3,160 ft; steel line measurement, show fresh water; swabbed 50% water; swabbed down oil and water gone.
Empire G. & F. Co.'s No. 1 J. J. Wall, Sec. 161, Blk. 3. T.D., 2,930 ft; S.D; 43,000,000 ft. gas; closed in; to drill deeper.
Empire G. & F. Co.'s No. 1 Webb, SW cor. Sec. 59, Blk. 25; elev. 2,534 ft. ..... Drlg. by whipstock, 3,455 ft.
Lefors Pet. Co.'s No. 1 Leach, Lefors Townsite. ..... Rigging.
Gladis Gray's No. 1 Colebank-Morse (was Foster et al's No. 1 G. Cutebank), SW cor. NE Sec. 65, Blk. 25.... 2,905 ft., T.D; plugged back to 2,803 ft; shot 160 qts., 2,430-2,510 ft; 1,200 ft. oil in hole; bailed dry; shot with 600 qts., 2,479-2,525 ft; 100 ft. of oil.
Gulf Prod. Co.'s No. 1 Bowers, Sec. 89, Blk. B-2 ..... Drlg., 1,791 ft.
Gray County Pet. Co.'s No. 1 Herndon, Sec. 147, Blk. 3.. 600 ft. water, 3,280-95 ft.
Gray County Pet. Co.'s No. 1 A Chapman ..... Spudding.
Neudigate et al's No. 1 A. Chapman, NE cor. E half SE Sec. 52, Blk. 25 ..... S.D., 1,835 ft. for 8¼-in. csg.
Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3.. Drlg., 1,100 ft.
Pampa Pet. Co.'s No. 1 Mary Leopold, Sec. 141, Blk. 3.. Water, 3,230-60 ft; slight oil show in granite wash, 3,572-75 ft; C.O.
Petroleum Explin. Co.'s No. 1 L. C. McConnell, SE cor. NW Sec. 174, Blk. 3 ..... Spud.
Purple Sage Oil Co.'s No. 1 Johnson, Sec. 8, Rockwell County school land ..... First oil show, 2,645 ft; water, 2,660 ft; show oil in granite wash, 2,790-95 ft; 8-in. casing set, 2,803 ft; show gas, 2,814 ft; S.D; no gas.
Riley & Heck's No. 1 Mrs. Hopkins, Sec. 66, Blk. 2-B.... Show oil, 3,020 ft; dropped 6-in. casing in hole; drlg. by 11 joints 6-in.
Rensoul Pet. Co.'s (was Salisbury & Reynolds') No. 1 M. Huselby, C SE NE NE Sec. 55, Blk. 25, H. & G. N. Sur. ..... Flow. 30 bbls. daily from granite wash topped, 2,407 ft; 6-in. set at 2,407 ft; drilling in.
Roxana Pet. Corp.'s No. 1 Combs & Worley, NE cor. NW, Sec. 39, Blk. 3 ..... Drlg., 1,480 ft.
Roxana Pet. Corp.'s No. 1 R. S. McConnell, NE cor. E half SW, Sec. 174, Blk. 3 ..... Drlg., 740 ft.
C. B. Shafer's No. 1 G. Cole, SE cor. W half SW Sec. 105, Blk. 3 ..... Fish. for pipe, 3,313 ft; 2,000 ft. oil in hole.
Sullivan et al's No. 1 fee, NW cor. E half SW, Sec. 1, Blk. 1, A. C. H. & B. Sur. ..... Cellar.
The Texas Company's No. 1 J. B. Barrett, NE cor. NW NW, Sec. 130, Blk. 3 ..... 2,000,000 ft. gas, 3,115-20 ft; 6-in. set at 3,135 ft.
J. Williams et al's No. 1 C. W. Bradford, Sec. 123, Blk. B-2 ..... Rig temporarily abd.

HALE COUNTY

Engleking Drlg. Co.'s No. 1 Mulligan, C Sec. 21, Blk. B, R. M. Thompson Sur. ..... 150 fluid in hole from.

HALL COUNTY

Seifert et al's No. 1 Owens, C NE Sec. 179, Blk. S-5, Dennison & Pacific Sur. ..... Spudded and S.D.

HOCKLEY COUNTY

El Capitan Oil Co.'s No. 1 Ellwood, SW cor. Sec. 55, Blk. A, R. M. Thompson Sur., 18 mi. NW Lubbock.. Drlg., 1,350 ft; (no report).
World Oil Co.'s No. 1 Ellwood, Sec. 6, Wilbarger County school land ..... U.R. 10-in. pipe to 1,400 ft.

HARTLEY COUNTY

Deep Rock Oil Co.'s No. 1 Lymann & Balfour, Sec. 9, Blk. 2 ..... Show gas and rainbow of oil. 2,560 ft; drlg. ahead 2,840 ft; dry.
Eslick et al's No. 1 J. B. Irving, Sec. 13, Blk. 13 ..... Topped granite wash, 3,108 ft; show oil, 3,226 ft; drlg., 3,300 ft.
J. E. McKanna's No. 1 Frances Farwell, Sec. 30, Blk. 22. Drlg. red rock, 2,859 ft.

CROWN PALES

"shoo" carbon troubles

CARBON and carbon troubles are unknown in the CROWN lubricated engine. For CROWN pales volatilize completely—distill off clean from piston heads and cylinder walls. What little carbon, if any, is formed, is dry, soft, and powdery; easily blown out through the exhaust.

Far-sighted jobbers know that here is a business-building advantage—that recommending CROWN Pales gains the good-will of the motorist—and never fails to hold it.

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CROWN CENTRAL PETROLEUM CORPORATION

New York-Houston

J. E. McKanna's No. 1 J. M. Shelton est., Sec. 29, Blk. 202 . . . S.D., 3,595 ft; cas. trouble; rig blown down; rebuilding rig.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller est., Sec. 4 . . . Spudded and S.D.
Hoover et al's No. 1 fee, J. S. Hood Sur. . . . Drlg., 4,485 ft.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 1 Ida Ingerton . . . 3,000,000 ft. gas, 2,400-80 ft; drlg.
Anderson & Pritchard's No. 2 William Yake, SW cor. NW. Sec. 1, Blk. J, H. & G. N. Sur. half mile W of No. 1 . . . Rigged.
R. G. Barnum et al's No. 1 Garland Sanford, Sec. 78, Blk. 46 . . . Rig.
Beam et al's No. 1 Cockrell, Sec. 3, Blk. 23 . . . S.D., 405 ft. for orders.
Berryman Oil Co.'s No. 1 Sanford, Sec. 83, Blk. 46, H. & T. C. Sur. . . . 80,000,000 ft. gas, 2,690-2,905 ft show oil, 2,915 ft; fish., 3,040 ft.
Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y . . . S.D., 750 ft.
Conklin et al's No. 1 Johnson, Sec. 1, Blk. XO3, H. & O. B. Sur. . . . S.D. 600 ft. for 12-in.
Great Plains Oil Co.'s No. 1 Bivins, Sec. 13, Blk. Y2, T. T. R. R. Sur. . . . 60,000,000 ft. gas, 2,540-60 ft; drlg., 2,600 ft.
Great Plains Oil Co.'s No. 1 Kingsland, Sec. 4, Blk. Y . . . Drlg., 2,100 ft.
Golden Eagle Oil Corp.'s No. 1 J. Q. Bost, Sec. 6, Blk. Y-2 . . . Derrick.
McMan C. & G. Co.'s No. 1 Albert Yake . . . Drlg., 650 ft.
Marland Oil Co.'s No. 1 Carver, Wm. Heath Sur. . . . S.D., 3,810-30 ft; 710 ft. water.
Panfield Oil Co.'s No. 1 Luginbyhl Bros., Sec. 50, Blk. M-23 . . . S.D., 1,200 ft.
Pole Cat Oil Co.'s No. 1 W. B. Haile, Sec. 24, Blk. M-21 . . . Drlg., 2,550 ft.
Phillips Pet. Co.'s No. 1 Yake, Sec. 36, Blk. 46 . . . Topped pay, 2,820-50 ft; 1,800 ft. oil in hole; connecting to pipe line.
Prairie O. & G. Co.'s No. 1 J. M. Sanford, SW cor. N half Sec. 85, Blk. 46 . . . Drlg., 2,275 ft.
Prairie O. & G. Co. and Vacuum Oil Co.'s No. 1 Cal Merchant . . . Drowning out 75,000,000 ft. gas 2,252-2,740 ft; drlg. by tools at 2,550 ft.
Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson . . . Run. cas. by tools, 2,515 ft.
Sweeney et al's No. 1 Johnson, Sec. 33, Blk. Y . . . S.D., 1,760 ft.
U. S. Oil Corp.'s No. 1 Johnson, Sec. 35, Blk. Y . . . Drlg., 2,000 ft.
Vitek Oil Co.'s No. 1 W. F. Allen, Jose Rodriguez Sur. . . . S.D., 180 ft.

KING COUNTY

Gibson & Johnson's No. 1 Burnett est. . . . Salt water, 2,525-50 ft; run. 8-in. to 2,576 ft; drlg., 2,605 ft.
Midwest's No. 1 Patton . . . Drlg., 2,375 ft.
J. L. Pattison's No. 1 Patton . . . S.D., 2,065 ft.
Phillips Petroleum's No. 1 . . . Drlg., 3,220 ft.
Sinclair . . . S.D., 2,220 ft.
White Eagle's No. 1 . . . S.D., 2,640 ft. for 8-in. shoe.

LIPSCOMB COUNTY

Cal-Tex's No. 1 Bradford, C NE NE Sec. 899, Blk. 43, H. & T. C. Sur. . . . Spudding.
Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 43 . . . S.D., 600 ft.
McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 504, Blk. 43, H. & T. C. Sur. . . . Drlg., 3,758 ft.
Ozark Drlg. Co.'s No. 1 Frass, NE SE Sec. 106, Blk. 10, H. & T. C. Sur. . . . Rig on ground.
Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW, Sec. 100, Blk. 43 . . . S.D., 2,565 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 2 Terry Thompson, Sec. 19, Blk. 44 . . . Making 34,000,000 ft. gas; lime, 3,425 ft; fish.
Douglas Oil Co.'s No. 1 H. M. Beauchamp, Sec. 112, Blk. 44 . . . 12,000,000 ft. gas, 3,425 ft; 6-in. cas. set, 3,470 ft; drlg., 3,700 ft.
Marland Oil Co.'s No. 1 J. T. Sneed, Jr., Sec. 25, Blk. 1 . . . Half baller water per hr., 3,152-3,202 ft; plug. back for gas.
Moore County Oil Co.'s No. 1 Sneed, Sec. 30, Blk. 6-T . . . Drlg., 2,440 ft.
Shadler Bros.' No. 1 John Lowery, Sec. 237, Blk. 44 . . . U.R. 8-in. pipe, 1,650 ft.
Skelly Oil Co.'s No. 1 Armstrong & Byrd . . . Drlg., 1,310 ft.
Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21 . . . Spudding.

MOTLEY COUNTY

Chechaco Oil Co.'s (J. W. Pennington et al of Amarillo) No. 1 J. W. Owens, NW cor. Sec. 26, Blk. 4 (15,000-acre solid block) . . . Drlg., 3,130 ft.
Exploration Co.'s No. 1 Burleson . . . Spudded.
Exploration Co.'s No. 1 Tillson . . . S.D., 750 ft. for repairs.
Wheeler et al's No. 1 C. D. Bird, C NE Sec. 4, Blk. S. Stephens Sur. . . . Spudding.

OCHILTREE COUNTY

W. G. Burton's No. 1 Stickler, Sec. 579, Blk. 43 . . . Run. 5 3/16-in. cas., 3,850 ft.
Hamilton et al's No. 1 R. E. Wamble, Sec. 144, Blk. 43 . . . S.D., 250 ft.
McCorkle Pipe Line Co.'s No. 1 R. H. Moore, Sec. 471, Blk. 43 . . . S.D., 1,600 ft.
McCorkle's No. 1 Weinett, Sec. 674, Blk. 43 . . . Fish., 550 ft.
Standard Dev. Co.'s No. 1 Bowden, Sec. 923, Blk. 43 . . . S.D., 900 ft.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landergin, SE cor. NE SW Sec. 46, League 310, Capital land . . . Fish., 3,720 ft.

PARMER COUNTY

Humble O. & R. Co.'s No. 1 Farwell; elev. 4,005 ft . . . C.O., 3,503 ft.

POTTER COUNTY

Amarillo Oil Co.'s No. 1 Masteron, Sec. 69, Blk. O-18, D. & P. Sur. . . . Building rig.
Del Rio Oil Co.'s No. 1 River Bed, Sec. 106, Blk. 46, H. & T. C. Sur. . . . Rig.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A . . . Show gas, 4,990 ft; show oil, 4,-992 ft; S.D. for liner.
Dunbar's No. 1 H. A. Gill, Sec. 127, Blk. M-2 . . . Cellar; temporarily abd.
Murphy et al's No. 1 Gill, Sec. 31, Blk. M-2 . . . S.D., 650 ft.
Charles Page et al's No. 1 Hamilton, Tract 2, Clay County school land . . . S.D., 440 ft.
C. C. Wilson, No. 1 A. H. Tandy, NE cor. Sec. 182, Blk. 42, H. & T. C. Sur. . . . Spudding.

SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk. 3-B . . . Drlg., 1,390 ft.
Hagy & Harrington's No. 1 S. F. Flores, C SW Sec. 64, Blk. 3-T, T. & N. O. Sur. . . . Set 15½-in. at 557 ft.
Phillips Pet. Co.'s No. 1 Price & Fuqua, C NE, Sec. 33, Blk. 2-B, G. H. & H. Sur. . . . Drlg., 250 ft.
Whitehead et al's No. 1 Lee Bivins, C SW Sec. 36, Blk. 2, G. H. & H. Sur. . . . Location.

SWISHER COUNTY

R. H. Miller's No. 1 Todd . . . Loc. temporarily abd.

WHEELER COUNTY

American Ref. Co.'s No. 1 E. E. Carlton, Sec. 29, Blk. 13 . . . 8,000,000 ft. gas; show oil, 2,027 ft; T.D., 2,255 ft; plugging back to shoot.
Angus et al's No. 1 G. A. Morgan, SW cor. SW NE Sec. 93, Blk, 17 . . . Making 24,000,000 ft. gas, 1,800-95 ft; S.D., 1,895 ft.
Angus et al's No. 1 Vermillion, SW cor. NW SW, Sec. 80, Blk. 17, H. & G. N. Sur. . . . Drlg., 275 ft.
Boyles & Johnson's No. 1 S. L. Lewis, Sec. 40, Blk. 24 . . . Fish. for bit, 2,490 ft.
Foster et al's No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur. . . . Spudded and S.D.
Marland Oil Co.'s No. 2 W. E. Bentley . . . Show gas, 2,205 ft; S.D. by agreement.
J. J. Rook's No. 1 M. Mertel, SE NE Sec. 4, Blk. 24, H. & G. N. Sur. . . . Making 40,000,000 ft. gas; fish., 1,985 ft.
J. J. Rook Co.'s No. 1 T. C. Jones, Sec. 1, Blk. 34 . . . Fish. casing, 1,300 ft.
J. J. Rook's No. 1 C. W. Porter, SW cor. NW Sec. 41, Blk. 24 . . . S.D., 2,300 ft. by agreement.
Wheeler O. & G. Co.'s No. 1 P. J. Sorenson, Sec. 53, Blk. A-4 . . . Spudded and S.D.
Smith Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. 4-A . . . S.D., 2,112 ft. for orders.
E. L. Woodley, Jr.'s No. 1 Woodley, Sr., Sec. 13, Blk. 5-A . . . Show oil, 2,227 ft; S.D. 2,349 ft.
Watchorn O. & G. Co.'s No. 1 F. E. Shelton, C NE NE Sec. 22, Blk. 24 . . . Gas broke in at 2,007 ft., mudding off.
The Texas Company's No. 1 Bell, Sec. 71, Blk. 13, H. & G. N. Sur. . . . Drlg., 612 ft.
The Texas Company's No. 1 B. P. Sowell . . . 47,000,000 ft. gas, 1,855 ft; caught fire.
Tidal Oil Co.'s No. 1 W. E. Bentley . . . Drlg., 2,150 ft.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 46)

William Shaffer et al's No. 1 University, C SE SE Sec. 9, Blk. 47, University Sur., elev. 2,344 ft. . . . Total depth 2,344 ft.; plugged back to 2,208 ft.; shot 10 qts. 2,170-95 ft.; shut down.
William Schaffer et al's No. 2 University, 1,350 ft. N and 2,610 ft. E of SW cor. Sec. 9, Blk. 47, Univer. Land . . . Top salt 1,060 ft.; drilling 1,540 ft.
W. W. Donnelly, Young, Logan & Hult's No. 1 Pierce, C SW Sec. 150, Blk. O, G. H. & S. A. Sur., elev. 2,105 ft. . . . Rainbow show 454 and 540 ft.; shut down for 10-in. 1,375 ft.
P. H. Williams' No. 1 L. P. Powell, NE cor. Sec. 53, Blk. BB . . . Top salt 1,052 ft.; top lime 2,466 ft.; flowed 341 bbls. 2,575-91 ft., 33.5 gravity; 1,640 bbls. May 31 to June 5; flowed average 258 bbls. June 6-11; swabbed 588 bbls. June 12 and 410 bbls. June 13; put on pump June 13, gauge 350 bbls.; June 23 made 600 bbls. oil and 15 bbls. water from behind pipe.
Word Oil Co.'s No. 1 Schneeman, N and W SE cor. Sec. 57, Blk. BB, G. C. & S. F. Sur., elev. 2,679 ft. . . . Top salt 1,035 ft.; sulphur water 2,490 ft.; total depth 2,575 ft.; trying to swedge pipe.
Young & Donnelly's No. 1 J. M. Shannon, C Sec. 11, Blk. 9, D. & S. E. Sur. . . . Spudded and shut down.

CULBERSON COUNTY

James H. Gardner et al's No. 1 Radford, C SE Sec. 29, Blk. 62, Public School Land Sur. . . . Straightening hole 420 ft.
Scott & Dittman's No. 1 Miller, SW cor. NW NE Sec. 1, School blk. 97 . . . Building rig.

ECTOR COUNTY

J. S. Cosden, Inc., et al's No. 2 Connell-A, NW cor. NE Sec. 13, B-16, School Land, elev. 2,844 ft. . . . Top salt 870 ft.; top lime 3,177 ft.; first show 3,420-22 ft.; pay 3,471-3,515 ft.; 160 ft. oil in hole; shot 180 qts.; estimated 1,000,-000 ft. gas.
J. S. Cosden et al's No. 3 G. W. Connell-A, SE cor. NE... Top salt 863 ft.; show oil 3,375 ft. and 3,499 ft.; top lime 3,195 ft.; drilling 3,530 ft.

FISHER COUNTY

Zoch & McCamey and Marland Oil Co.'s No. 1 Lanius A (was Danciger O. & R. Co.'s No. 1 Lanius), NE cor. SE Sec. 15, Blk. Y, T. & P. Sur. . . . Set 5-in. 3,661 ft.; hole full water 3,770 ft.; drilling 3,803 ft.
Ideal Oil Co.'s No. 1 Jameson, C SE Sec. 111, Blk. 1, H. & T. C. Sur. . . . Hole full salt water 2,345-2,520 ft.; underreaming 2,900 ft.
Marland Oil Co. and Texon's No. 1 McCall, Sec. 108, Blk. 3, H. & T. C. Sur. . . . Rig.
Marland Oil Co. and Vacuum Oil Co.'s No. 1 J. H. R. Lagow, Sec. 3, Blk. 22, T. & P. Sur. . . . Set 10-in. 2,076 ft.; shut down at 2,700 ft.; 10-in. froze at 1,445 ft.
Miley Oil Corp. and Marland Oil Co.'s No. 1 W. W. Ammons, Sec. 128, Blk. 3, H. & T. C. Sur. . . . Drilling 1,560 ft.
R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T. & P. Sur. . . . Shut down for orders 2,725 ft.
Sinclair Oil & Gas Co.'s (was Bourdon Royalty Co.'s) No. 1 J. A. Danise, Sec. 6, Blk. K, T. & P. Sur. . . . Underreaming 12-in. 730 ft.
Stearns & Streeter's No. 1 W. A. Howell, N and E SW cor. NE Sec. 12, Blk. 23, T. & P. Sur. . . . Set 6-in. 3,565 ft.; resumed drilling 3,808 ft.
The Texas Company's No. 1 D. S. Stevens, C SW SE SE Sec. 79, Blk. 1, H. & T. C. Sur. . . . Drilling 1,570 ft.

FOARD COUNTY

C. H. Clark et al's No. 1, SW cor. Sec. 89, Blk. 44, H. & T. C. Sur. . . . Rig.
Fain-McGaha Oil Corp.'s No. 1 Mathews . . . Sandy lime 855-60 ft.; 1,000,000 ft. gas; drilling 1,340 ft.
Humble O. & R. and Navarro Oil Co.'s No. 1 L. McAdams, C S ½ Sec. 27, Blk. L, S. P. Sur. . . . Hole full water 2,560 ft.; drilling 3,240 ft.
The Texas Company's No. 1 Watkins . . . Drilling 500 ft.

GAINES COUNTY

Westheimer & Daube's No. 1 Birge & Forbes Land Co., Sec. 308, Terrell County School Land . . . Rotary; drilling 2,800 ft.

GARZA COUNTY

Emerald Oil Co.'s No. 1 D. Boren, NW cor. NE Sec. 137, Blk. 5, H. & G. N. Sur. . . . Small show oil in gray lime 1,884-1,902 ft.; shut down 2,600 ft.; show oil and hole full water 2,420-60 ft.
Pandem Oil Co.'s No. 1 Justice, SW cor. NW Sec. 2, Blk. 6, H. & G. N. Sur. . . . Drilling 450 ft.

GLASSCOCK COUNTY

California Co.'s No. 1 W. B. Currie, Sec. 215, Blk. 29 . . . Drilling water well.
Green et al's No. 1 F. G. Oxsheer, Sec. 6, Blk. 34, T. & P. Sur. . . . Drilling 730 ft.
Landreth Producing Corp.'s No. 1 A. L. Houston . . . Drilling 600 ft.
World Oil Co. and J. S. Meriwether's No. 1 L. S. McDowell, C SW Sec. 43, Blk. 34, Twp. 2-S, T. & P. Sur., elev. 2,553 ft. . . . Drilling 990 ft.; hole full water.
R. P. Penn et al's No. 1 W. P. Edwards, C SE Sec. 11, Blk. 34, Twp. 2-S, T. & P. Sur., elev. 2,501 ft. . . . Slight show oil 905 ft. in brown sand; top salt 1,295 ft.; running 6-in. 2,994 ft.
Sid Richardson, C. O. Collins and Merle Cadman's No. 1 Burns, NE cor. SW Sec. 183, Blk. 29 . . . Pulled in rig 1,688 ft.; rebuilding.

HOWARD COUNTY

Bowers et al's No. 1 Chester Jones, C SW Sec. 32, Blk. 27, T. & P. (3,200-ft. test) . . . Shut down 500 ft.
Fred Carey et al's No. 2 G. O. Chalk, SE NW Sec. 124, Blk. 29 . . . Shut down 1,040 ft.
W. W. Donnelly et al's No. 1 Martin, SE cor. Sec. 41, Blk. 33, T-2-N, T. & P. Sur. . . . Drilling 1,920 ft.
Francis & Brunson's No. 1 J. W. Furrh, C SW Sec. 11, Blk. 31, T. & P. Sur., T-1-S . . . Location.
Marland Oil Co. and Zoch's No. 1 Jones, Sec. 32, Blk. 27, T. & P. Sur., elev. 2,218 ft. . . . Shut down 500 ft.
Marland Oil Co.'s No. 1 A. M. Fisher, Sec. 1, Blk. 33, T. & P. Sur., T-2-S, elev. 2,730 ft. . . . Underreaming 10-in.; total depth 1,100 ft.
L. C. Harrison et al's No. 1 Dora Roberts, Sec. 156, Blk. 29 . . . Total depth 900 ft.; setting 10-in.
Marland Oil Co. and Zoch's No. 1 Guitar est., No. 1, Sec. 4, Blk. A, Bauer & Cockrell Sur., elev. 2,517 ft. . . . Top salt 1,155 ft.; show oil 3,157 ft.; drilling 3,730 ft.
Owens & Sloan's No. 1 John Roberts, Sec. 136, Blk. 29, W. & N. W. Sur. . . . Shot 90 qts. 1,898-1,923 ft.; total depth 1,928 ft.; top pay 1,848 ft.; filled up 300 ft.; will shoot again.

HUDSPETH COUNTY

Lockhart Brothers' No. 1 Gardner & Moseley, C SE Sec. 5, School Blk. 21 . . . Shut down 235 ft.

IRION COUNTY

Cash Dollar et al's No. 1 G. J. Bird, NE Sec. 16, Blk. 10, S. P. R. R. Sur. . . . Shut down 2,500 ft.

JEFF DAVIS COUNTY

Humble O. & R. Co.'s No. 1 Crecencio Flores, Sec. 34, Blk. 58, T. & P. Sur. T-8 . . . Straightening hole 370 ft.
J. K. Hughes Dev. Co.'s No. 1 J. Z. Means, 600 ft. from N line and 2,000 ft. from W line of M. Robinson Sur. No. 1 . . . Hole full fresh water 3,075 ft.; rainbow show at 3,180 ft.; drilling 3,500 ft.

JONES COUNTY

E. R. Brann's No. 1 E. M. Hawk, Sec. 71, Blk. 14, T. & P. Sur. . . . Moving in material.

Midwest Exploration Co.'s (was Campbell et al's) No. 1 L. H. Herndon, Sec. 6, M. E. P. & P. Sur., elev. 1,832 ft. — Top pay 2,498 ft.; deepening to 2,524 ft.; swab bed 115 bbls.; will probably shoot.

Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands — Rig.

Gibson & Johnson's No. 1 Largent, C SE Sec. 50, Blk. 149, Dewitt Co. School Land — Shut down 2,998 ft.

Gillette & Hickey's No. 1 M. E. Young, Tevanio Sur. No. 190 — Drilling 1,625 ft.

Hutson & Weaver's No. 1 Smith, Sec. 51, Blk. 18, T. & P. Sur. — Shut down for fuel 700 ft.

Kirk & Brewer's No. 1 J. H. Milsap, Justo Rodriguez Sur., League 357 — Hole full salt water 2,403-10 ft.; shut down 2,540 ft.

Manhattan Oil Co.'s No. 1 S. W. King, Sec. 198, James Bartlett Sur. — Shut down 1,700 ft.

Marston Oil Co.'s No. 1 E. Howell, NW cor. SE W ½ of N 400 acres, Sec. 20, Blk. 19, T. & P. Sur. — Small show oil 2,496 ft.; shut down 2,545 ft.

Marston Oil Co.'s No. 1 J. S. Swan, Robert Spears Sur. No. 280 — Hole full salt water 2,390-2,400 ft. and 2,435 ft.; hole full salt water 3,015 ft.; underreaming 8-in.

Mid-Continent Petroleum Corp.'s No. 1 H. Evans, NE cor. SE SE Sec. 44, S. P. R. R. Sur. — Small show oil 2,831-32 ft.; hole full water 3,020-40 ft.; total depth 3,110 ft.; shut down.

W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 — Total depth 1,320 ft.; fishing tools.

Stebbins Oil Co.'s No. 2 Higgs, SE cor. Sec. 30, W. T. Scott Sur. — Rig.

Swensondale Oil Co.'s No. 1 Caton, SW NW Sec. 9, Deaf & Dumb Asylum Lands — Shut down 1,665 ft.

Tomberlin et al's No. 1 Oscar Clapp, CSL SW Sec. 37, Blk. 16, T. & P. Sur. — Underreaming 1,655 ft

World Oil Co.'s No. 1 Boyd (was W. H. Lee), 12,700 ft. N and 2,130 ft. E of SW. cor., Samuel Jones Sur. No. 266, elev. 1,720 ft. — Drilling 2,840 ft.

Kingston et al's (was Zeigler) No. 1 Reeves, C SE SE Sec. 164, B. B. B. & C. Sur. — Shut down 1,925 ft.

KENT COUNTY

Douglas Oil Co.'s No. 1 Scoggins, Sec. 57, Blk. 7, H. & T. C. Sur. — Drilling 2,975 ft.

Marland Oil Co. and Texon O. & L. Co.'s No. 1 Bilby, Sec. 41, Blk. K, Thompson Sur. — Location.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Jones, CSL Sec. 111, Blk. C, H. & T. C. Sur. — Hole full water 2,850-62 ft.; drilling 3,040 ft.

Deep Rock Oil Co.'s No. 1 Beavers, CSL Sec. 224, Blk. 44, elev. 1,441 ft. — Total depth 2,860 ft.; fishing.

Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,590 ft. W of NE cor. Sec. 31, Blk. 4 — Shut down for 10-in. 1,150 ft.

Humble O. & R. Co.'s No. 1 Goode, 1,940 ft. S and 200 ft. W of NE cor. Sec. 7, H. T. & B. Sur. — Hole full water 1,710-15 ft.; cleaning out 1,935 ft.

The Texas Company's No. 1 J. O. Bowden, Sec. 115, Blk. 45, H. & T. C. Sur. — Rigging up.

The Texas Company's No. 1 Teague — Drilling 780 ft.

LOVING COUNTY

Kingwood Oil Co.'s No. 1 T. O. Moore, C NE Sec. 2, Blk. G-25, Public School Land, elev. 3,120 ft. — Top salt 1,210 ft.; show gas 1,600-15 ft.; shut down 2,725 ft.

Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T. & P. Sur. — Shut down 1,020 ft.; in litigation.

LUBBOCK COUNTY

Sam Arnett et al's No. 1 Bowles ranch, Sec. 21, Blk. 5, G. C. & S. F. Sur. — Drilling 1,000 ft.

LYNN COUNTY

The Hart Oil Corp.'s No. 1 C. O. Edwards, NW NW Sec. 5, Blk. 2, L. & S. V. Sur. — Shut down 1,400 ft.; to skid rig.

MIDLAND COUNTY

Orbit Oil Co.'s No. 1 Moreland, C SE Sec. 17, Blk. 39, T. & P. Sur. T-1-S — Rigging up.

MITCHELL COUNTY

Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T. & P. Sur. T-1-N — Drilling 1,080 ft.

Paul Teas' No. 1 Ed Strain, Sec. 82, Blk. 97, H. & T. C. Sur. — Total depth 3,510 ft.; plugged back to 1,700 ft.; shot 210 qts. 1,675-1,700 ft.; 700 ft. oil and 300 ft. water in hole; bailed dry; shut down for orders.

Magnolia Petroleum Co.'s No. 1 T. L. McKenney, Sec. 20, Blk. 29, T. & P. Sur. T-1-N — Drilling 3,430 ft.

Tex-O-Kan Oil Co. and Robert Thraves' No. 1 W. F. Sanders — Drilling 700 ft.

B. E. Walter et al's No. 1 J. E. Dollen, NW cor. SW Sec. 11, Blk. 27, T. & P. Sur. — Shut down 3,955 ft.; hole full sulphur water.

NOLAN COUNTY

A. G. Malone et al's No. 1 J. B. Carlyle, Sec. 35, Blk. 23, T. & P. Sur. — Material on ground.

A. G. Malone et al's No. 1 M. C. McElmurry, Sec. 36, Blk. 20, T. & P. Sur. — Spudded and shut down; rig blew down.

J. H. Winemiller Corp.'s (was Peters et al's) No. 1 Booth, Sec. 90, Blk. 21, T. & P. Sur. — Shut down 960 ft. for water.

Herbert Oil Co.'s (was McCleskey and others') No. 1 Pepper, SE cor. SW Sec. 29, Blk. 22, T. & P. Sur. — Rigged up and shut down.

Phillips Petroleum Co.'s No. 1 Scott, Sec. 58, Blk. 21, T. & P. Sur. — Drilling 3,260 ft.

Zweifel and others' No. 1 Longbotham, C SE Sec. 130, Blk. 1, H. & G. N. Sur. — Shut down 1,660 ft. for fuel.

PECOS COUNTY

George Anderson's No. 1 Sherbino Brothers, CWL NW. Sec. 43, Blk. C-4, G. C. & S. F. Sur. — Location.

Allsman & Bell's No. 1 Pecos River Bed, 178 ft. E and 117 ft. S of NE cor. Sec. 60, Blk. 1, elev. 2,143 ft. — Top salt 450 ft.; pay 970-1,070 ft.; increase 1,050-54 ft.; flowed 181, 160 and 110 bbls. June 21-23.

Allsman & Bell's No. 2 Pecos River bed — Moving in material.

Benedum & Trees' No. 1 J. C. Trees, C NW SE SE Sec. 30, Blk. 7, H. & G. Sur., elev. 2,556 — Total depth 3,115 ft.; sidetracked 6-in. with new string.

Buell et al's No. 1 Batcheler, C N ¼ NE Sec. 89, Blk. OW, G. C. & S. F. Sur., elev. 3,188 ft. — Show oil 1,700 ft.; flowed sulphur water 1,775 ft.; fishing 2,740 ft.

Buell & Hagan's No. 1 Jasper, 1 mi. S and W NE cor. Jasper Co. School Land No. 104 — Location.

California Co.'s No. 1 I. G. Yates, 1,300 ft. out of SE cor. Sec. 34, Blk. 194, G. C. & S. F. Sur. — Spudding.

Cromwell & Kimberlin's No. 1 Blackman, C NW Sec. 24, Blk. 3, H. & T. C. Sur., elev. 2,393 ft. — Top salt 890 ft.; small show oil 1,930 ft.; half baller oil 1,948 ft.; total depth 2,126 ft.; flowing Sulphur water; plugged back to 2,100 ft.; shot 60 qts. 1,936-50 ft.; no results.

M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, I. & G. N. Sur. — Drilling 440 ft.

Diamond Petroleum Co.'s No. 1 Blackstone & Slaughter, Sec. 27, Blk. 2-A — Location.

Bob Elmore's No. 1 M. Holmes, Sec. 642, Blk. 1, I. & G. N. Sur. — Drilling 325 ft.

Garland & Mott's No. 1 El Paso Cattle Loan Co., C NE Sec. 26, Blk. 136, T. & S. L. Sur. — Drilling 150 ft.

Geo. A. Henshaw, Jr., No. 1 Snyder, Sec. 29, Blk. 144, T. & St. L. Sur. — Location.

Kershaw & Livingston's No. 1 Cannon, SW cor. NE Sec. 54, Blk. A-2, T. C. R. R. Sur. — Location.

McMan O. & G. Co. and Marland Oil Co.'s No. 1 Yates, 330 ft. N and W of NE cor. Sec. 35, Blk. 194, but located in Sec. 34½ — New location.

Marland Oil Co.'s No. 1 Yates, NE cor. Sec. 60, Blk. 1, I. & G. N. Sur. — New location; machine

Mazda Oil Co.'s No. 1 M. A. Smith, NE cor. NW Sec. 24, Blk. 194, G. C. & S. F. Sur. — Spudded and shut down.

Mid-Kansas and Transcontinental's No. 2 Yates-B, 1,320 ft. N and E of SW cor. Sec. 61, elev. 3,549 ft. — Drilling 1,207 ft.; show oil.

Moutray Oil Co.'s (was Pecos Big 3 Oil Co.'s) No. 1 Robertson, Sec. 28, Blk. 10, H. & G. N. Sur. — Drilling 400 ft.

Olean Petroleum Co.'s No. 1 Arthur Harral, C SE Sec. 98, Blk. A-2, T. C. R. R. Sur. — Location.

Olean Petroleum Co.'s No. 1 G. A. Harral, C SW Sec. 82, Blk. B-3, G. C. & S. F. Sur. — Location.

Olean Petroleum Co.'s No. 1 Sherbino Brothers, C NW Sec. 31, Blk. C-4, G. C. & S. F. Sur. — Location.

Quinby Oil Co.'s No. 1 Townsite, Sec. 1, Blk. 267, Client Addition Sur. Fort Stockton — Shut down 3,440 ft.

Quinby Oil Co.'s No. 2 Bennett, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. — 200 ft. oil in hole from 1,216 ft.; shot 20 qts. 1,208-20 ft.; hole full sulphur water 1,452 ft.; total depth 1,457 ft.; shot 130 qts. 1,353-60 ft.; no results; shut down.

Quinby Oil Co.'s No. 1 A. A. Gray, 660 ft. N and 1,320 ft. E SW cor. Sec. 593, Abst. 3,009 — Shut down 680 ft.

Red Bank Oil Co.'s No. 1 Arthur Harral, C SE Sec. 35, Blk. C-4, G. C. & S. F. Sur. — Location.

Red Bank Oil Co.'s No. 1 McKenzie, C N ½ Sec. 21, Blk. 126, T. & St. L. Sur. — Drilling 510 ft.

Seventy-Five Oil Co.'s No. 1 F. A. Perry, C SE NW Sec. 19, Blk. 178, T. E. R. R. Sur. — Drilling 2,500 ft.

W. R. Shankel et al's No. 1 I. G. Yates, CSL SW SE SE, Sec. 58, Blk. 1, I. & G. N. Sur. — Top salt 425 ft.; shut down 930 ft.

Simms Oil Co.'s No. 1 A. J. Dowlin, C NE Sec. 12, Blk. 105, G. C. & S. F. Sur. — Moving in material.

Texon O. & L. Co.'s No. 2 I. G. Yates — Rainbow show 1,075 ft.; show oil 1,243 ft.; total depth 1,754 ft.; plugged back to 1,340 ft.; shot 180 qts. 1,240-65 ft.; no increase.

Texon O. & L. Co.'s No. 3 I. G. Yates — Location.

Texon O. & L. Co. and Marland Oil Co.'s No. 1 Blakesley, SW cor. Sec. 90, Blk. 11, H. & G. N. Sur. — Top salt 840 ft.; flowing sulphur water 2,095 ft.; reaming pipe 2,360 ft.

John Dropplemann's No. 1 Mrs. L. Hershenson, Sec. 7, Blk. 61, T. & P. Sur. T-10 — Top salt 2,640 ft.; running 6-in. 3,707 ft. in salt.

World Oil Co.'s No. 1 Serf, SW cor. NE Sec. 10, Blk. 130, T. & St. L., elev. 3,425 ft. — Location.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootle est., Sec. 123, Blk. 3, D. & P. Sur. — Shut down 2,550 ft.

REAGAN COUNTY

Henshaw & Camp's No. 1 University, Sec. 14, Blk. 48, University Land — Rig shut down.

Marland Oil Co.'s No. 1 University-Anderson, Sec. 19, Blk. 58, University Land — Location.

Tidal Oil Co.'s No. 1 University, NW cor. NE Sec. 20, Blk. 8, elev. 2,819 ft. — Top salt 1,302 ft.; pure lime 2,995 ft.; little anhydrite 3,025 ft.; hole full sulphur water 3,058-85 ft.; shut down 3,093 ft.; will plug.

REEVES COUNTY

Deep Rock Oil Co.'s No. 1 Caldwell, C SW Sec. 22, Blk. 58, T. & P. Sur., Twp. 8 — Hole full sulphur water 3,590 ft.; shut down 3,855 ft.

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land — Spudded 20 ft. and shut down.

Humble O. & R. Co.'s No. 1-B Kloh, C NE Sec. 47, Blk. 56, T. & P. Sur. T-2-S, elev. 2,781 ft. — 900 ft. sulphur water 1,760-1,800 ft.; drilling 2,620 ft.

David R. Thompson's No. 1 A. A. Eddins — Moving in material.

World Oil Co.'s No. 1 Biggs, C SE Sec. 65, Blk. 112, Public School Land Sur., elev. 3,068 ft. — Shut down 1,610 ft.; tools moved to No. 1 Duff.

World Oil Co.'s No. 1 Duff — Run 8-in. 1,710 ft.

RUNNELS COUNTY

Noble Oil Co.'s No. 1 Simms, Sec. 12, J. J. McHenry Sur. — Drilling 1,270 ft.

Lou Ladd et al's (was Frank Yates') No. 1 R. M. McMillan — Small show oil and gas 545-62 ft. and 590 ft.; drilling 2,245 ft.

SCHLEICHER COUNTY

Beavers & Leath et al's No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. C. Sur. — Spudded and shut down.

Thomas Grey et al's No. 1 Ball Robinson, C NW Sec. 25, Blk. M, G. H. & S. A. Sur. — Shut down 1,100 ft.

SCURRY COUNTY

Northwest Co.'s No. 1 T. C. Stinson, NE NW SW, Sec. 101, Blk. 97, H. & T. C. Sur. — Tested 8 bbls. 1,745 ft.; another pay at 3,402-07 ft.; bailed 70 bbls. oil in 4 hours and bailed dry; drilling 4,500 ft.

STERLING COUNTY

Inland Oil Co.'s No. 1 Durham, Sec. 12, Blk. T, T. & P. Sur. — Location.

J. P. Williams' No. 1 Clark, NE NE SW Sec. 7, Blk. 8, G. C. & S. F. Sur. — Shut down 1,089 ft.;

I. Little's No. 1 Fisher Bros., Sec. 1, Blk. T. T. & P. Sur. — Run 6-in. 1,380 ft.

Orr et al's No. 1 Neal Reed, CNL Sec. 15, Blk. 30, W. & N. W. Sur. — Rig.

STONEWALL COUNTY

J. P. Johnson's No. 1 R. P. Morrow — Location.

R. F. Garland & Co.'s (was McCamey & Zoch's) No. 1 J. Ward, C SW Sec. 153, Mrs. Ward Dobl's Sur., 3 mi. NW of Aspermont — Fishing tools 2,140 ft.

TAYLOR COUNTY

A. J. Brown et al's No. 1 Hensiee, NE cor. Sec. 5, Blk. 4, S. P. R. R. Sur. — Shut down 780 ft.; tools in hole.

Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T. & P. Sur., elev. 1,904 ft. — Shut down 455 ft.

Gilbert Johnson's No. 1 C. M. Brown, Sec. 1, Blk. 6, T. & P. Sur. — Spudded and shut down.

W. E. Halbert et al's No. 1 Hunt, C SE Sec. 124, Blk. 64, H. & T. C. Sur. — Shut down 1,960 ft.

Humble O. & R. Co.'s No. 1 Mattie Jacobs, Sec. 1, Nabors Sur. — Total depth 2,520 ft.; reruning 8-in.

Midwest Explin. Co.'s No. 1 Dora Smith, Jose Gabo, Sur. — Hole full salt water 3,275-80 ft.; shut down for orders 3,280 ft.; enough gas to burn.

Morrison & Thompson's No. 1 Mrs. Alice Rose, SW cor. NE Sec. 29, Blk. 19, T. & P. Sur., elev. 1,925 ft. — Fishing casing 2,540 ft.

Owen & Sloan's No. 1 Lattimer, Sec. 14, Blk. 9, T. & P. Sur. — Drilling 2,000 ft.

Roeser & Pendleton's No. 1 Sam Hutman, C W ½ NW Sec. 64, Blk. 5, T. & P. Sur. — Total depth 710 ft.; shut down

Sanger O. & R. Co.'s No. 1 Ike Brown, NE cor. Sec. 54, Blind Asylum Land — Drilling 2,250 ft.

Sanger O. & R. Co.'s No. 1 Stem — Location.

World Oil Co.'s No. 1 R. Griffith, SW cor. NE Sec. 32, Blind Asylum Land, elev. 1,747 ft. — Drilling 2,670 ft.

TERRY COUNTY

Kingsland Oil & Potash Co.'s No. 1 Brownsfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur. — Fishing for 10-in. 1,335 ft.

TOM GREEN COUNTY

Camp's No. 1 H. D. Wilkey, Sec. 4, B. A. L. Sur. — Drilling 315 ft.

Fitzgerald et al's No. 1 Bennett — Shut down 120 ft.

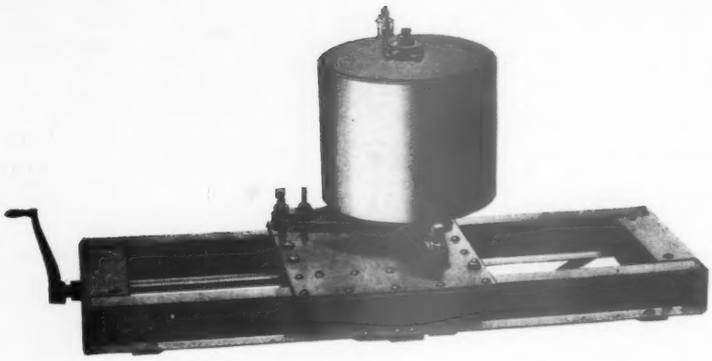
Marland Oil Co.'s No. 1 Llano, 3,500 ft. S and 13,000 ft. W of NE cor. Llano Co. School Land No. 964 — Total depth 3,105 ft.; running 6-in. 3,116 ft.

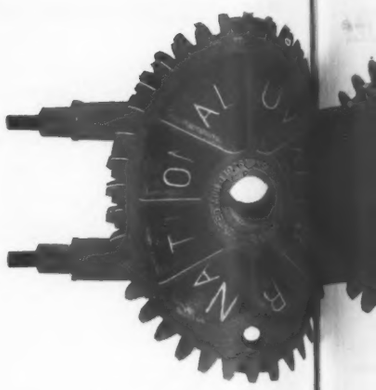
Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 162, Blk. 11, S. P. R. R. Sur. — Moving in material; new location.

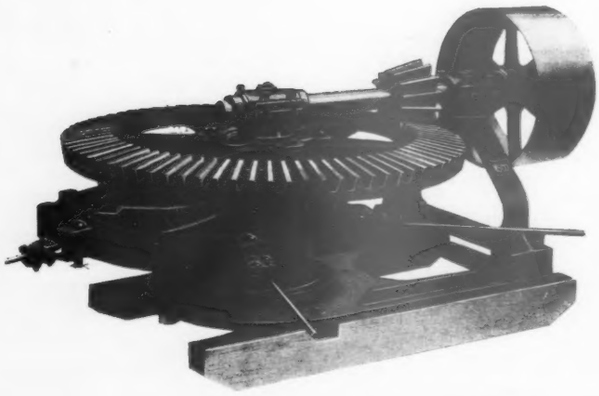
UPTON COUNTY

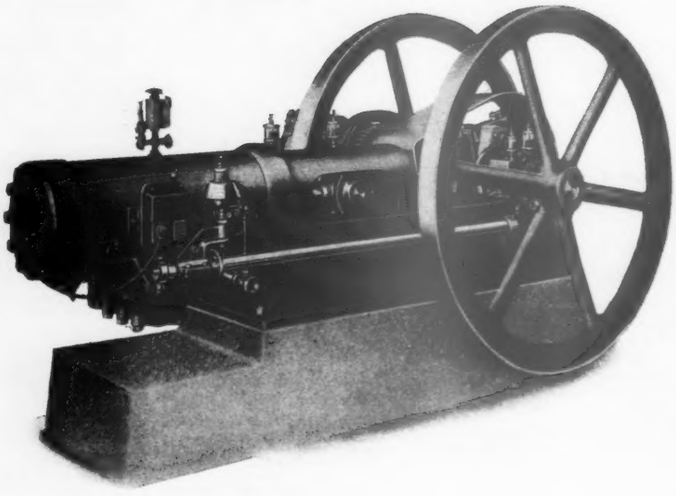
Hults et al's No. 1 Giddings, C Sub. Sec. 12, Throckmorton Co. School Land — Top salt 1,515 ft.; running 5-in. 3,615 ft.

Hults et al's No. 2 Giddings, 5,336 ft. S and 6,678 ft. E of NW cor. Throckmorton Co. School Land, league 1 — Rig; drilling water well.









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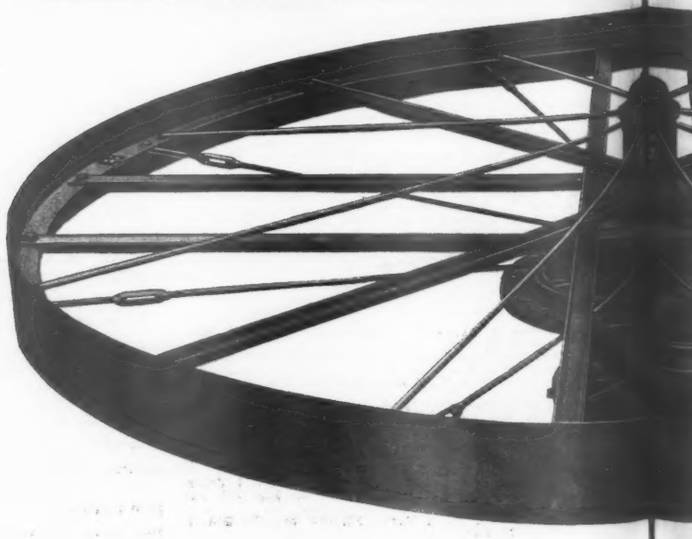

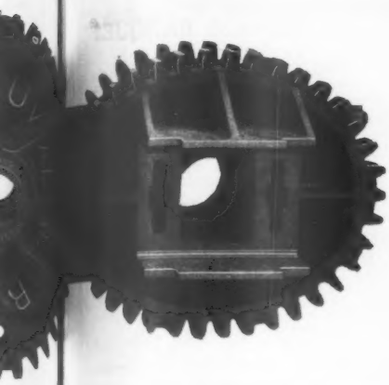

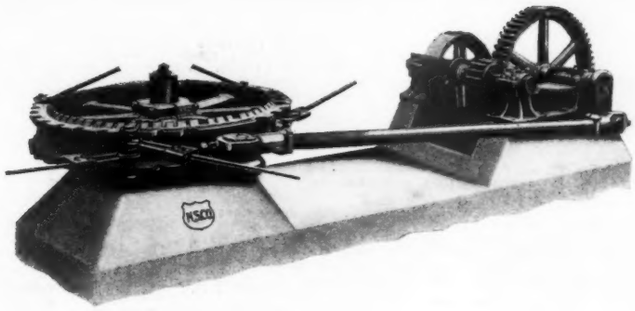

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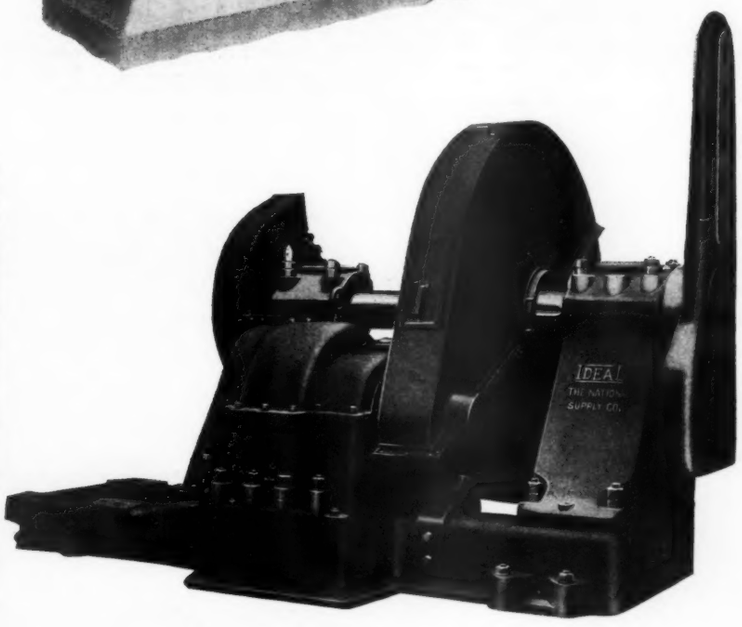
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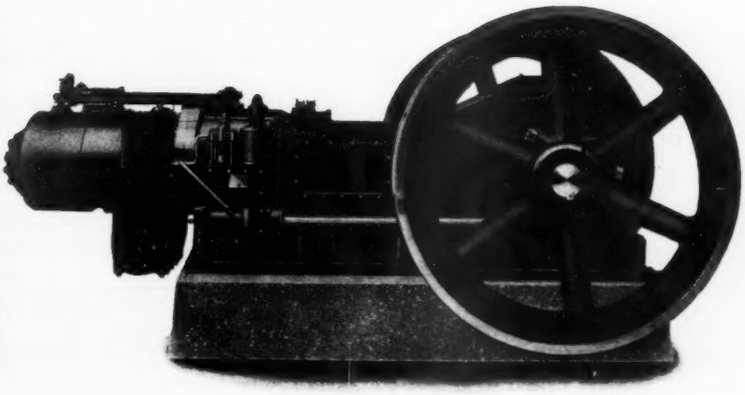

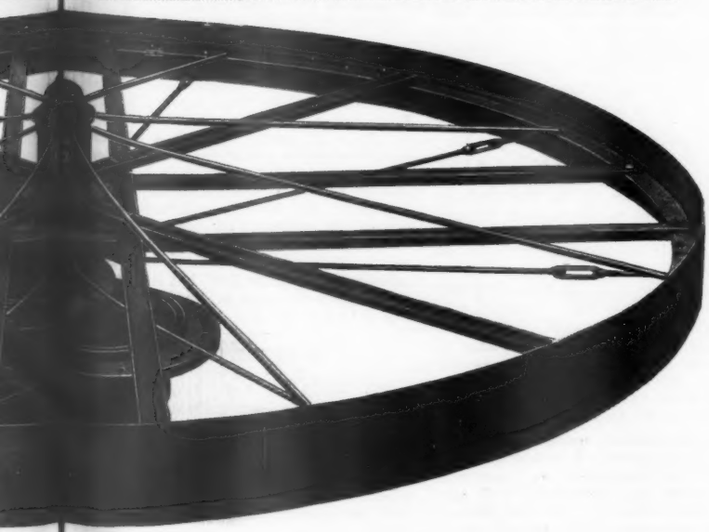

Levi Smith and Marland's No. 1 University, C E ½ Sec. 17, Blk. 5, University Land ..... Drilling 500 ft.
Marland Oil Co.'s No. 3 Burleson, T. C. Jones Sur. No. 100 ..... First pay 2,205 ft.; second pay 2,295 ft.; 2,000 ft. sulphur water 3,390-95 ft.; 1,000 ft. sulphur water 4,135 ft.; drilling 4,563 ft.
Marland Oil Co.'s No. 34 Burleson, Sec. 100, T. C. Jones Sur. ..... Shut down 3,255 ft.
Simms Oil Co.'s No. 1 B. C. Clark, NE cor. SW, Sec. 5, G. C. & S. F. Sur., elev. 2,473 ft. ..... Top salt 470 ft.; top lime 1,718 ft.; sulphur water 1,834-50 ft.; drilling 2,200 ft.
Wise & Jackson's No. 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E ..... Location.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore est., Sec. 183, J. Mitchell Sur. ..... Shut down 3,000 ft.
Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur. ..... Fishing 2,940 ft.
Douglas Oil Co.'s No. 1 Sellars, C SE Sec. 82, Blk. A, I. & G. N. Sur. ..... Rig burned 2,940 ft.
East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur. ..... Shut down 3,142 ft.
Hiawatha Oil Co.'s No. 1 Sellars, C Sec. 1,031, Blk. A, I. & G. N. Sur. ..... Hole full salt water 2,455 ft.; straightening hole 2,640 ft.
Magnolia Petroleum Co.'s No. 1 Whitehead, Sec. 81, Blk. D, G. C & S. F. Sur. ..... Shut down for fishing tools 190 ft.
Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I. & G. N. Sur. ..... Shut down 3,900 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I. & G. N. Sur. ..... Flowing sulphur water 2,300-25 ft.; fishing casing 2,440 ft.

WARD COUNTY

Marland Oil Co.'s No. 1 J. Sealey, C SE Sec. 78, Blk. A. G. M. M. & A. Sur., elev. 2,820 ft. ..... Hole full fresh water 970-80 ft.; top salt 1,100 ft.; hole full sulphur water 3,245-48 ft.; run 6-in. 3,294 ft.; shut down 3,506 ft.; preparing to abandon.

WINKLER COUNTY

Atlantic O. P. Co.'s No. 1 Hendricks, Sec. 34, Blk. B-5.... Drilling 1,310 ft.
Champlin Drilling Co.'s No. 1 C. W. Cowden, C SW Sec. 21, Blk. C-23, Public School Land, elev. 2,889 ft. .... Hole full water 2,385 ft.; setting 6-in. 2,425 ft.
Gulf Prod. Co.'s No. 1 O'Brien, SW C Sec. 28, Blk. F, G. M. M. & A. Sur. ..... Moving in rig.
Group 1 Humble O. & R. Co.'s No. 1 T. G. Hendricks, C SE Sec. 26, Blk. 27 ..... Drilling 830 ft.
Humble O. & R. Co.'s No. 1 T. G. Hendricks, S and W NE cor. W ½ NE Sec. 33, Blk. B-5, Public School Land ..... Drilling 1,160 ft.
Independent O. & G. Co.'s No. 1 Hendricks-A ..... Drilling 1,670 ft.
Independent O. & G. Co.'s No. 2 Hendricks-A ..... Drilling 530 ft.
McCullough Oil Co.'s No. 1 Tobe Morton, CEL Sec. 20, Blk. B-12, Public School Land ..... Hole full salt water 1,940 ft.; shut down 2,010 ft.
R. S. Matthews et al's No. 1 State, C Sec. 7, Blk. A-57, Public School Land Sur., elev. 3,120 ft. ..... Drilling 920 ft.
Pure Oil Co.'s No. 1 Hendricks, SW cor. Sec. 41, Blk. B-5, Public School Land ..... Drilling up lugs 1,552 ft.
Pure Oil Co.'s No. 2 Hendricks..... Top salt 1,518 ft.; top lime 2,390 ft.; cemented 8-in. 2,479 ft. and shut down.
Roxana Petroleum Corp. and Llano Oil Co.'s No. 1 Scarborough, C Sec. 1, Blk. C-22, Public School Land, elev. 2,921 ft. ..... Top salt 1,115 ft.; hole full water 1,321 ft.; 10-in. set 1,570 ft.; top pay 2,990 ft.; second pay 3,124-28 ft.; filled up 2,700 ft. and swabbed 65 bbls. oil and 125 bbls. bs. very little gas; oil tests 38.8°; drilling 3,149 ft.
Skelly Oil Co.'s No. 1 M. M. Leeman, 1,320 ft. E of SW cor. Sec. 21, Blk. 75, elev. 2,951 ft. ..... Top salt 1,167 ft.; drilling 4,800 ft.
Southern Crude Oil Pur. Co.'s No. 3-C Hendricks, SE cor. NE Sec. 33, Blk. B-5 ..... Top salt 1,870 ft.; little gas 2,630-40 ft.; shut down for orders 2,735 ft.; making 2,000,000 ft. gas and 1 bbl. oil.
Southern Crude Oil Pur. Co.'s No. 4-C Hendricks ..... Cementing 8-in. 2,525 ft. and shut down.
Southern Crude Oil Pur. Co.'s No. 1 Hendricks A-1, SE cor. NE Sec. 44, Blk. 26 ..... Cementing 8-in. 2,371 ft.
Southern Crude Oil Pur. Co.'s No. 1 Hendricks-D, SE cor. NE NW Sec. 4, Blk. B-12..... Rigging up rotary.
Southern Crude Oil Pur. Co.'s No. 1-F Hendricks, Sec. 33, Blk. B-5, NE cor. SE..... Drilling 500 ft.
Texon O. & L. Co.'s No. 1 Central State Bank, SW cor. W ½ SE Sec. 41, Blk. B-5 ..... Top salt 1,450 ft.; drilling 1,800 ft.
White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 R. A. Lock, 1,320 ft. W of NE cor. Sec. 30, Blk. 74, NW of discovery well..... Drilling 1,250 ft.

OPEN COVENANTS OPENLY ARRIVED AT

(Continued from Page 42)

pear mysterious to it. Certain events of the past decade have appeared to justify that attitude. Frank, open discussion at all times of the problems involved would eventually acquaint the public with the advantages to it of the proposed co-operation in the petroleum industry. Through these means its confidence will have been gained. If it sees the petroleum industry diligently studying its own problems, endeavoring to remedy the evils that affect it, we may rest assured there will be no danger of ill-considered or undesirable regulatory legislation imposed upon the industry. The public has sufficient intelligence to realize that no other agency can correct the economic evils of the industry so efficiently as that industry itself,—if it will.

Win Public Confidence

Unless the petroleum industry will give to the public frankly and openly the picture as it exists, and thereby create the necessary public confidence, Government's hand is tied in giving the industry the necessary liberties it must have in order to work out these problems through its own agencies. Secretary Work is quoted as having said if the industry would have the public's confidence, it must take the public into its confidence. Secretary Hoover is quoted as saying that the oil industry should conduct its business with glass pockets. Others generally assumed to have ability in sensing public reaction do not hesitate to say the industry has failed to get its problems across to the public.

Surely there can be no question of the necessity of doing these things that have been described provided the industry wishes to remain free to work out its own problems. If, on the other hand, it wishes to bring upon itself a mass of detail legislation, tying itself up in government regulations and with its operations supervised by government bureaus, there is no more effective way of bringing it about than perpetuating the past secretive methods of carrying on discussions.

Danger from Within Industry

No government agencies indicate any desire or inclination to take over operation of the oil industry. In fact they have repeatedly indicated their opposition to any such procedure. They have their hands full with the necessary functions of Government. The danger does not come from that source. It comes, instead, from within the industry. Operators, seeking some relief from present conditions, and being unable or unwilling to await the slower processes of constructive action through their own agencies, turn blindly to some legislative panacea, hoping thereby, they know not how, some relief may be found.

Some months ago it was stated:

"The recent attempts to correct by compulsory legislation certain obvious evils of the petroleum industry are not unnatural. They are but the familiar incidents of economic progress in any movement. So long as the need for correction exists efforts will be made to accomplish it by legislation and the defeat of any such proposal does not end the danger—it is merely delayed, accumulating force. The proposals recur again and again, each time more formidable. The danger to the industry, then, is that if it does not undertake those things which are so obviously its duty it will find itself burdened with legislative enactments depriving it of that freedom of action it now enjoys and can retain if it shows a disposition to correct its own problems."

The truth of that prediction is already apparent. Those familiar with recent trends of thought are amazed how generally within the industry is becoming the feeling that legislation must be enacted, and in what influential places it is being accepted as perhaps inevitable.—All this in face of the fact that the industry has not the least idea of what it needs! Nor can that be known except as experience with proposed methods points the way.

Less than two years ago several well-known leaders of the industry joined in expressing the following opinion.

"Waste in the production, transportation, refining and distribution of petroleum and its products is negligible..... A suggestion that the industry is conducted in a manner so wasteful as to be alarming is a matter of great concern to those engaged in it, who know by what ceaseless watchfulness has been brought about the reduction of physical wastage from oil well to consumer to a figure slightly over 3 per cent of the crude produced..... Present production methods are as efficient as is warranted by the value of the product handled. The waste in the industry is virtually negligible and the oil left in the ground becomes a reserve for the future."

The same gentlemen are now among the more strenuous exponents of some action to stop the waste that, in their judgment, exists. If the movement is yet in this evolutionary stage it would appear unwise to stop its natural development by freezing it into fixed form by legislative enactment.

Oil Board's Recommendations

In support of such proposals is frequently cited a recommendation of the Federal Oil Board regarding state legislation. The writer again disclaims any knowledge of what may or may not be the attitude of that board on matters of legislation except as may be inferred from its public statements. But he is altogether unable to reconcile any such attitude on its part as is frequently urged regarding it with the following statement quoted from its report:

"The major part of the measures that must be taken to protect our future supplies must rest upon the normal commercial initiative of private enterprise. The field for governmental action is considerable, but to formulate the broader by-laws of the industry in the sense of conservation and to concentrate thought upon them, is the major part of the board's task in co-operation with the industry."

Certainly that does not indicate a disposition to cure the ills of the industry by legislative enactments. It is, of course, unquestioned that from time to time some legislation will be necessary, but that should be mere incidents in the movement as it develops—not the prime moving force.

What the industry needs at this time in the development of co-operation is education—not legislation, and that education would most effectually and naturally come about by the development of open covenants, openly arrived at.

HOOVER IS ASKED TO ADDRESS BANQUET

(Continued from Page 42)

Dow Pump & Diesel Engine Co., Alameda, Calif.
Dunn Manufacturing Co., Oxnard, Calif.
Federal Malleable Steel Co.
Foamite-Childs Corp., Utica, N. Y.
Garlock Packing Co., Palmyra, N. Y.
Garber Supply Co., Garber, Okla.
Gaso Pump & Burner Co., Tulsa.
Halliburton Oil Well Cementing Co., Duncan, Okla.
Hercules Motors Corp., Canton, Ohio.
Hill, Hubbell & Co., Tulsa.
Hinderliter Tool Co., Tulsa.
Hufford Oil Well Reamer, Kansas City, Kans.
Hurley Gasoline Co., Tulsa.
Hutchison Engineering Works, Chicago, Ill.
International Filter Co., Chicago, Ill.
Kemper-Thomas Co., Cincinnati, Ohio.
Kennedye-Plumb Corp., St. Louis, Mo.
Kohler Co., Kansas City, Mo.
Linde Air Products Co., New York City, N. Y.
Lufkin Foundry & Machine Co., Lufkin, Tex.
Lunkenheimer Co., Cincinnati, Ohio.
MacClatchie Manufacturing Co., Compton, Calif.
Mack International Motor Truck Corp., New York, N. Y.
Magneto Ignition Corp., Tulsa.
Maloney Tank Manufacturing Co., Tulsa.
Manzel Brothers Co., Buffalo, N. Y.
Merco Nordstrom Valve Co., New Orleans, La.
Mid-Continent Map Co., Tulsa.
Mid-Continent Petroleum Corp., Tulsa.
E. E. Miller, Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
National Meter Co., Chicago, Ill.
National Petroleum News, Cleveland, Ohio.
National Tank Seal Co., Tulsa.
Nellson Manufacturing Co., Tulsa.
Newton Process Manufacturing Co., Fullerton, Calif.
Niles Tool Works Co., Hamilton, Ohio.
Norval & Dial, Inc., Tulsa.
Oakite Products, Inc., New York, N. Y.
Ohio Injector Co., Wadsworth, Ohio.
Ohio Steel Foundry Co., Springfield, Ohio.
Oil Field Engineering, Los Angeles, Calif.
Oil Weekly, Houston, Tex.
Oil Well Improvements Co., Tulsa.
Oklahoma Natural Gas Co., Tulsa.
Oklahoma Steel Castings Co., Tulsa.
Peerless Supply Co., Tulsa.
Permutit Co., New York, N. Y.
Pittsburgh Equitable Meter Co., Pittsburgh, Pa.
Pittsburgh Steel Priducts Co., Pittsburgh, Pa.
Power Plant Equipment Co., Kansas City, Mo.
Prairie Oil & Gas Co., Tulsa.
Quigley Furnace Specialties Co., New York, N. Y.
Reading Steel Casting Co., Inc., Bridgeport, Conn.
Refinery Supply Co., Tulsa.
Ridge Tool Co., Elyria, Ohio.
Ryan Motor Co., Tulsa.
Sherwin-Williams Co., Tulsa.
Shreveport Chemical Co., Shreveport, La.
Sivyer Steel Casting Co., Milwaukee, Wis.
Skelly Oil Co., Tulsa.
Skinner Bros. Belting Co., Tulsa.
Smith Separator Co., Tulsa.
Snap-On Wrench Co., Kansas City, Mo.
Sonner Gas Burner Co., P. J., Winfield, Kans.
Southwestern Engineering Corp. Los Angeles, Calif.
Spang & Co., Butler, Pa.
Stanley Belting Co., Chicago, Ill.
Stearn-Roger Manufacturing Co., Denver, Colo.
Stoody Products Sales Co., Tulsa.
Sullivan Machinery Co., Chicago, Ill.
Sullivan Co., Memphis, Tenn.
Tagliabue Manufacturing Co., C. J., Brooklyn, N. Y.
Timken Roller Bearing Co., Canton, Ohio.
Traction Machine Co., North Baltimore, Ohio.
Tulsa Boiler & Machinery Co., Tulsa.
Tuthill Pump Co., Chicago, Ill.
United Iron Works, Tulsa.
Vogt Machine Co., Henry, Louisville, Ky.
Waukesha Motor Co., Waukesha, Wis.
Wailes Dove-Hermiston Corp., New York, N. Y.
Walworth Co., New York, N. Y.
Welders Supply Co., Tulsa.
West American Rubber Co., Los Angeles, Calif.
Wiggins, E. B., Los Angeles, Calif.

GERMAN BOOK ON OIL

"Oelpolitik und Angelsachsischer Imperialismus." By Dr. Karl Hoffman. Ring-Verlag, 22 Motzstrasse, Berlin, W. 30. Price 24 marks. This is a 450-page book devoted to the history and development of the oil industry. It is concerned chiefly with the political phases of the business. The book is well written and covers the subject with typical German thoroughness and from a German viewpoint. This work has little value for the practical man in the field, but its detailed information on organization may make it useful to executives.

BUYS OIL LEASE

EL DORADO, Ark., June 27.—Announcement has been made here that the Lion Oil & Refining Co. has purchased the Murphy lease formerly owned by George & Jones in the NE NW Section 18-16-15. The deal involves a cash consideration of $15,000 and includes 45 bbls. daily production from four first sand wells.

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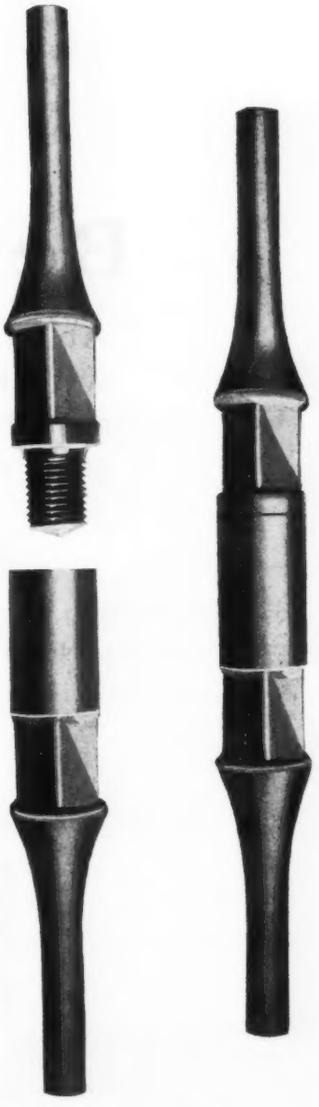

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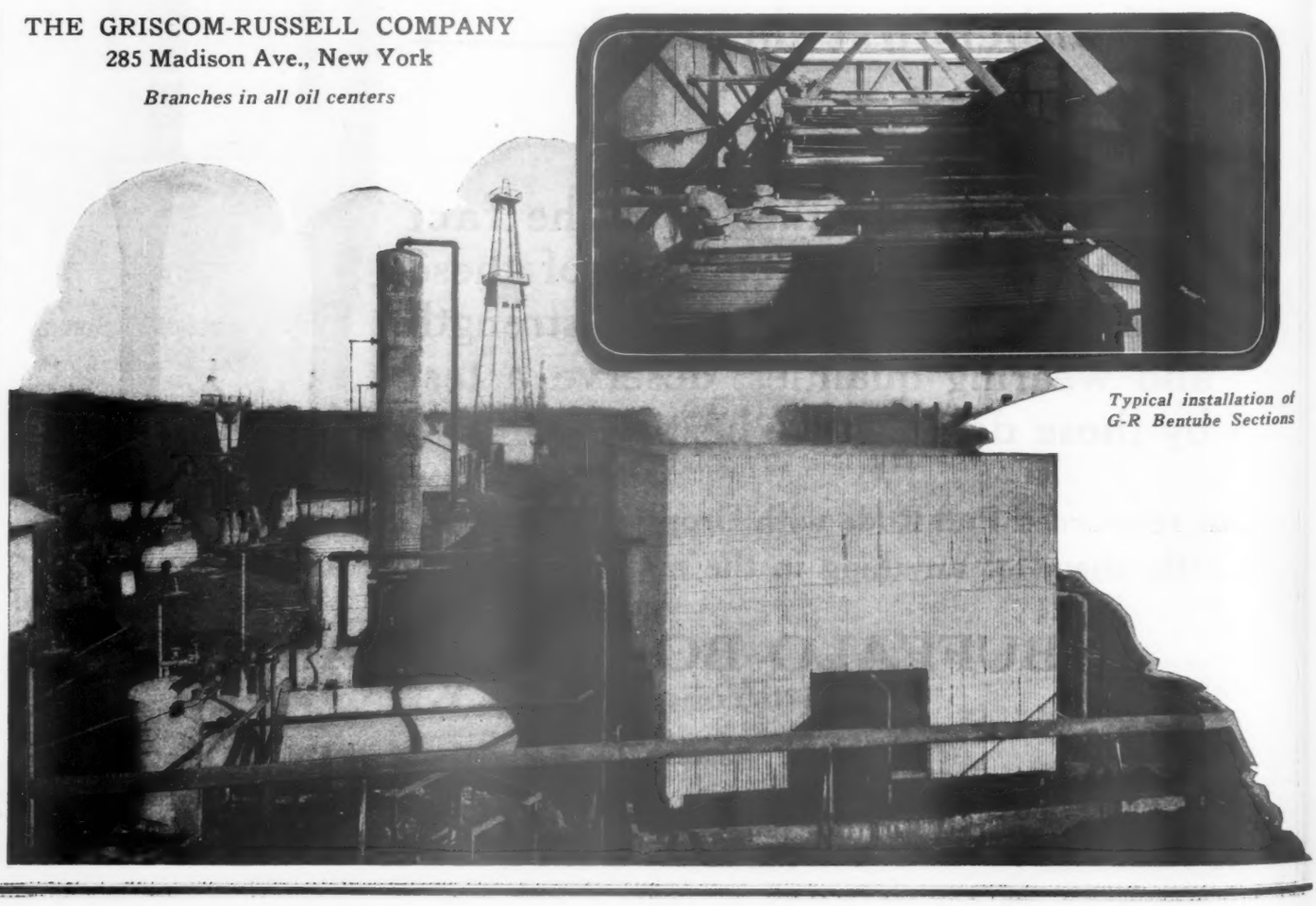
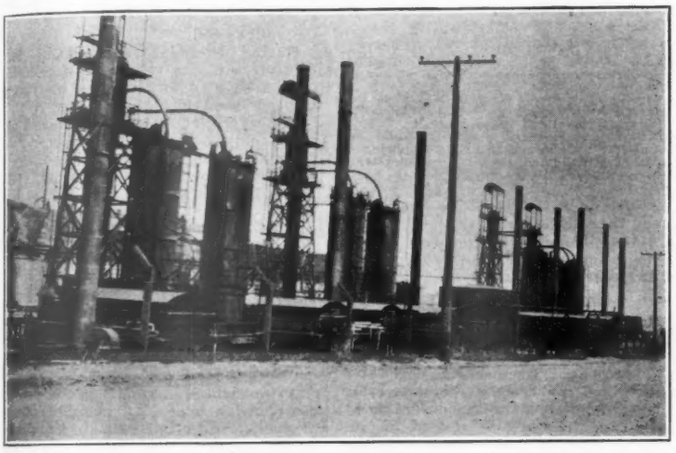


Typical installation of G-R Bentube Sections

CALIFORNIA'S REMARKABLE DEVELOPMENT

(Continued from Page 37)

practically reached the economic saturation point as far as company owned service stations are concerned, and in order to keep step with increasing consumption it has been found advantageous to build up the independent station trade. Others, in addition to making a bid for independent business, have adopted the policy of leasing out company owned stations which do not have a particularly inviting sales record. These stations are let out on a small rental basis, and the lessee, of course, agrees to market the product of the lessor exclusively. This has been found advantageous in many cases, for, with the adding of a tire and accessory shop and the personal contact established by the individual, business has accordingly increased to the mutual benefit of both. The Richfield Oil Co. has experienced considerable success in pioneering



A battery of eight modern Dubbs cracking units in operation at the Martinez, Calif., refinery of the Shell Co. of California.

the independent station trade in California, and this concern has built up one of the most successful retail systems in the State. The Richfield in a relatively short time has advanced with such rapid strides that at present it is the third largest marketer of gasoline in California.

The California Petroleum Corp. has only recently started in the coastwise marketing game, but the aggressive policy adopted by this company will no doubt place it among the elite in the very near future. Its products have met with favor, and the company's slogans of "More power to you" and "100 smiles to the gallon" are especially catching. Pan American Western is another late starter and, while this concern has not yet started distribution in a general way north of San Luis Obispo, it is a very important factor to be reckoned with in the future. The last gasoline tax figures show that California Petroleum Corp. and Pan American Western registered the largest individual gains, and both have since registered further increases.

The California Petroleum Corp.'s present plans call for the establishment of a system of oil and gasoline distribution extending from Los Angeles through Reno, Nev., across Utah, Wyoming, Montana, into Canada and back down the Pacific Coast to Los Angeles. To take care of this ambitious program, distributing depots are already up or will be established at Los Angeles, San Francisco, Seattle, Washington, Portland, Ore., and Sunburst, Mont. The freight obstacle, which has heretofore limited the distribution of California products, has been solved by the California Petroleum Corp. through the acquisition of a refinery at La Barge, Wyo., from which gasoline and other refined products can be shipped inland under favorable conditions. This company now has absolute control of the Olympic Calpet refinery at Seattle, which it built in conjunction with large shipping interests, and this plant is now supplying the demands of the Pacific Northwest.

The California Petroleum Corp.'s super-station at Wilshire Boulevard in Los Angeles is without doubt the most elaborate and complete servicing depot in the entire West and, while it will never afford even a fair return on the investment, it is nevertheless an exceptionally good investment both from a real estate and advertising standpoint, since the company purchased the property in fee and will thus be in a position to secure property appreciation in the future. This company is one of the few large refiners on the Pacific Coast which has woke up to the fact that the public demands super-service stations instead of the antiquated filling station of the past. The company is accordingly building super-stations almost entirely, the tire, battery, accessory and repair departments being rented out in most cases to private individuals under strict supervision. The Standard, Union, Shell, General Petroleum, Richfield and Associated have a limited number of super-stations or grease racks in connection with the usual filling depot, but, on the whole, these companies are leaving this business to the independent dealer to take care of.

Cracking Operations

In addition to completely changing marketing conditions, the overproduction of crude oil has also exerted an appreciable effect on refinery practice and, as a result of the superabundance of cheap crude, cracking has naturally been reduced to a minimum and in a few cases suspended entirely. Several additional installations which were supposed to have been erected this year have been held up indefinitely. The California Petroleum Corp. started work several months ago on some Holmes-Manley units but the sudden heavy increase in crude oil production has resulted in a temporary suspension, although construction work may be resumed at any time, since this company has subsequently increased gasoline sales very substantially. The Richfield Oil Co. has two additional Cross units in course of construction, while the Western Oil & Refining Co. will start work shortly on a cracking unit or two at its Wilmington refinery. The Shell has eight additional Dubbs units now under way at its new Dominguez refinery just south of the Dominguez Field in southern California and north of the same company's Wilmington refinery, but this new installation will probably not be utilized for another several months.

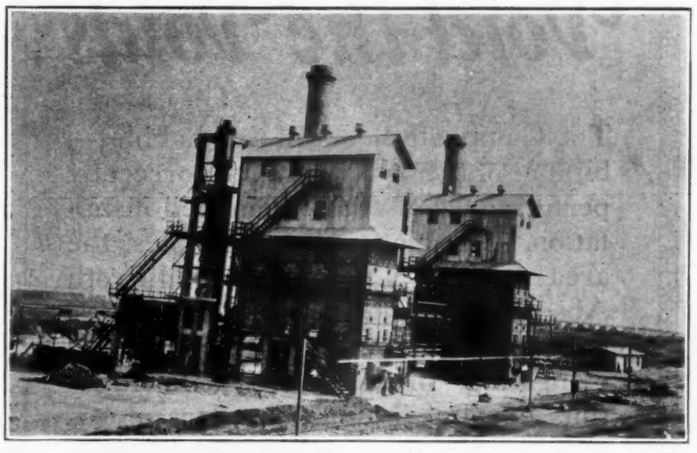
As the situation looks at present, California companies are improving all existing refining methods, which includes the erection of additional cracking units more to take care of future needs rather than on account of present requirements, in as much as the industry could get along very nicely without any increase in existing equipment. The Western Oil & Refining Co. has no doubt decided that it would be advantageous to install one or two cracking units immediately in order that the company may be able to get the maximum recovery from a barrel of oil since a large part of its present requirements are being purchased in the open market. Other refiners who do not have any appreciable crude oil reserves will also find it necessary to augment present refinery equipment with cracking units in the future.

While commenting on refinery operations it might not be amiss to call attention to the fact that the General Petroleum Corp. contemplates the erection of a new modern plant near Torrance and while no move has yet been made to initiate work this will no doubt be undertaken in the not far distant future. Present plans call for the removal of a considerable part of the present equipment now in use at Vernon. The General Petroleum is very crowded at Vernon and can not expand to advantage on account of the high price of this industrial land. As a consequence it is needless to say this refinery is one of the most compact in the State at present. The new site recently acquired at Torrance, however, will permit the erection of a modern up-to-date plant with a location as favorable as any other operating company.

Plans of the Shell Company

The Shell now has two large refineries, Martinez and Wilmington, but has another at Dominguez already in course of construction. This company is setting a fast pace and the gasoline line recently laid from the Ventura Avenue Field to Wilmington is a very important link and will no doubt be augmented by a crude line in the near future as the necessary permits and rights of way have already been secured. A new 8-inch crude oil line from the Mount Poso Field in Kern County to connect with a projected 10-inch to be laid south from Coalinga to Midway-Sunset is under contemplation and since the Shell recently closed a purchase contract with the Honolulu Consolidated at Midway for approximately 8,000 bbls. of crude per day, actual construction will no doubt get under way soon. In the meantime the Shell is running this oil by utilizing another company's pipe line facilities, a satisfactory exchange having been effected.

The writer called attention to the possible extension of the Shell's Martinez-Coalinga line south to Mount Poso via Midway-Sunset over a year ago. It is a logical move, particularly as this company will now be in a position to bid for additional crude oil purchases if desired and also because the San Joaquin Valley will in all probability yield another field or two during the next few years and the Shell will thus be in a position to take advantage of all breaks. The future policy of the Barnsdall and Marland Oil Companies with respect to their engaging in the refining and marketing game in California may possibly further intensify the highly competitive conditions now existing unless this projected expansion is delayed, notwithstanding both are very ably managed. The entrance of additional refiners into this area now can only result in keener competition since the new business expected must come from some of the companies already operating. If these two companies hold off until conditions improve they will go over big for there will not always be a large surplus of gasoline to keep prices down and many independent dealers will have a hard row to hoe. The crude oil reserves of the Marland and Barnsdall in California will then enable these two to compete to advantage.



First Holmes-Manley cracking units to be built on west coast. Units now under construction at the Watson, Calif., refinery of the California Petroleum Corp.

ESTIMATING RESERVES FOR THE GAS INDUSTRY

(Continued from Page 40)

is predicated upon the size of the investment.

An estimate of the future ultimate economic recovery from a structure is of course essential, but it should not be attempted until the subsurface conditions have been determined as accurately as possible. In addition, all other factors such as drilling practices, well spacing, rate of withdrawal, total quantity of gas withdrawn from the field which should include an estimate of the amount used for fuel and also that blown to the air, shou'd be taken into account. If reliable well and production records of the gas structure, since the first well was completed, are available, a reasonably accurate estimate of the future recoverable gas can be made. Several methods have been used in estimating the future economic recovery of natural gas. Among these, the most common methods are the saturation method and the volume pressure method.

Saturation Method.

The saturation method takes into account the porosity and thickness of the producing sand, the total productive area, and, the initial closed-in pressure. Porosity, productive area and thickness of the producing sand determines the total pore space in the sand, and this is expressed in cubic feet. To obtain the original volume of gas contained in the sand, calculated at atmospheric pressure, the following equation is used:

$$V = \text{Productive area (in. sq. ft.)} \times \text{Thickness of sand (in ft.)} \times \text{Porosity (in per cent)} \times \frac{(P_1 + \text{Atmospheric Pressure})}{(\text{Atmospheric Pressure})}$$

Where V=Original volume of gas contained in sand, calculated at atmospheric pressure.

P_1=Original closed-in pressure. (Generally termed Original Rock Pressure.)

The difference between the original volume of gas in the sand and the volume of gas of which the sand is depleted, constitutes the gas volume remaining in the sand. To determine the volume of recoverable gas still remaining in the sand, subtract the estimated volume of unrecoverable gas which is based on a careful survey of underground conditions, the survey including a careful study of wa-

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ter conditions and probable effect of the water on the fture production, general field practices, rate of production, and by comparison with the performance of similar but more depleted fields.

The pressure volume method is based on the decline in rock pressure and volume of gas withdrawn. The assumption is made that the reservoir volume remains the same and that Boyles' law applies to a natural gas. It is always best to make shut-in pressure tests after a period of slow withdrawals as for example late in the summer, in order to allow the pressure in the sand to become more nearly equalized. The equation for estimating the original volume of gas in the sand is as follows:

$$V = V_w \times \frac{(P_1 + \text{Atmospheric Pressure})}{P_d}, \text{ where}$$

V=Original volume contained in the sand.
V_w=Total volume of gas of which the sand has been depleted.
P_1=Inital closed-in pressure.
P_d=Pressure drop which occurred while V_w was produced.
To calculate the volume of original recoverable gas in the sand, the equation is,

$$V = \frac{V_w (P_1 - P_2)}{P_d}$$

Where
V_1=Original recoverable volume of gas in sand.
V_w=Total volume of gas of which the sand has been depleted.
P_1=Original closed-in pressure.
P_2=Average closed-in pressure (either estimated or determined from wells' performance) at which wells become commercially unproductive.

To determine the remaining recoverable gas in the sand, subtract the total volume of gas of which the sand has been depleted from the original recoverable volume of gas contained in the sand.

Encroaching Edgewater

It is assumed that the reservoir volume is a constant, also, the deviation of natural gas from Boyle's law is not taken into account. Encroaching edgewater would tend to decrease the reservoir volume, the decrease being more rapid at lower rock pressures, because of the increasing effect of water pressure as the gas pressure declines. Basing estimates on the initial rock pressure, a relatively small volume of gas withdrawn and a corresponding small decrease in rock pressure, estimated original volumes of gas would be high, if edgewater under a relatively high head were present in the producing sand. The volume produced per pound decline in rock pressure would decrease at lower pressures. Plotting production as abscissae and closed-in pressures as ordinates, the cumulative production curve would fall short of the estimated cumulative production curve based on the assumption that Boyle's law applied.

The deviation from Boyle's law due to the compressibilities of natural gases at different pressures is not directly proportional to the respective pressures, the deviation being greatest at maximum pressure. Plotting volume as abscissae and pressure as ordinates, the cumulative production curve would be flatter at higher pressures, and would gradually become steeper, the total cumulative production being greater than the estimated cumulative production curve which is based on the assumption that no deviation existed and that the compressibilities of gases were directly proportional to the respective pressures.

Summing up the effort of encroaching edgewater and the deviation from Boyle's Law, as explained above, the former may result in a lower ultimate recovery and the latter in a higher recovery than the estimated ultimate recovery which assumes that Boyle's law can be directly applied. These differences, one resulting in a lower, and the other in a higher recovery than the estimated one, may be at least partly compensating. When attempting to make gas estimates with any degree of accuracy, it is suggested that these variations be taken into account.

Often the closed-in pressures obtained on wells located in different parts of the field vary considerably, also variable sand conditions may affect the rate of production from different wells in a marked degree. Two suggested methods to use when these conditions exist are to estimate the reserve by areas, considering each area as a separate unit, or, by computing the weighted average rock pressure of the producing sand, and then applying the volume pressure method. When the reserve is estimated by areas, the total productive area of the field is divided into areas, the number of areas being dependent on the areas in which closed-in pressure differences occur. The closed-in pressure for each area is then determined. Treating each area as a separate unit, the ultimate future recovery is determined. The total ultimate future recoverable volume for the field is the sum of the ultimate future recoverable gas of all areas.

Smaller Areas

When the weighted average rock pressure method is used, the total productive area of the field is divided into a number of smaller areas. The ratio of the area of each area to the total field productive area is determined. Multiply the rock pressure of each area by the ratio of the area to the total field productive area. The sum of the products gives the average weighted closed-in pressure for the entire field.

Having determined the average field rock pressure, the volume pressure method can be used to determine the future ultimate recovery.

If the project under consideration involves only a part of the structure, an estimate of the future economic ultimate recovery involving the property from which the gas is to be obtained, should follow the total field estimate, due consideration being given to the location of the property on the structure.

After all of the preceding phases have been investigated and determined as accurately as possible, the size of the investment and risk will be the determining factors as to the feasibility of the project.

Residue Gas Reserves

As casinghead or residue gas is usually considered a byproduct, obtained in the production of oil, an intimate knowledge of the operating and producing methods employed in the oil fields is essential in order to make fairly accurate estimates of available marketable casinghead gas. This is evident when it is realized that the rate of production of the gas is dependent upon the rate of production of the oil, and that gas companies are powerless to curtail casinghead gas production. Reviewing the history of most oil fields in the country, no detailed discussion is necessary to point out the enormous waste of casinghead gas which took place during the flush production period. Greater attention is now being given by oil operators to the conservation of this gas and it is believed that in the near future adequate steps will be taken to reduce it to a minimum.

As was pointed out, the rate of production of casinghead gas is dependent upon the rate of production of the oil, hence a detailed investigation of the rate of production, the rate of decline, and to some extent the ultimate recovery of oil should be determined along with the other problems usually considered when making an oil survey of a field.

It has been found that several days spent in the field preliminary to the starting of an investigation is of considerable value. General information dealing with the problem at hand helps to establish a basis for comparison with other projects. The method of procedure is much along the same lines adopted in making a recoverable oil survey with additional information on the gas recovery being essential. The investigation may be summarized somewhat as follows:

1. A detailed study of the subsurface conditions, which takes into consideration the casing program, amount of penetration into the producing horizon, type of producing formation, water conditions, i. e., with respect to the source and location of water, whether upper water, intermediate water, bottom water, or edge water, and their probable effect on production, known upper producing horizons and possible deeper zones, comprises the first step in the investigation.

2. A study of companies' holdings follow. The location of these different properties on the structure is of importance,

those located most favorably usually offering the safest possibilities for investment.

3. The drilling program adopted by the different operating companies and the time required to drill wells determines the rate of production of gas as well as oil. Bearing in mind the drilling programs and rate of completion, which also determines how soon all locations will be drilled up, estimates can be made of the rate of production.

4. Having acquired an intimate knowledge of general field conditions, all available data pertaining to production should be assembled. From these data the rate of decline both oil and gas may be determined, cognizance being taken of the effect of the gas lift, repressuring and pumping or swabbing methods which follow after the wells have been flowing natural. It has been found advisable to first make a study of production by companies, and then to combine these various estimates in order to determine the future production for the entire field.

5. The next procedure is to determine how much gas will be available for marketing. Here again it is suggested that the different companies' holdings should be analyzed as separate units. An appreciable amount of gas will be used for fuel. This amount can be determined within reasonable limits by either estimating or measuring the amount used for drilling, for usual lease requirements seasonal fluctuations being taken into account, and for compression plants. A certain amount should be allowed for gasoline plants' shrinkage. Having determined the above by leases, the total field requirements can be computed. From the gas company's standpoint it is perhaps unfortunate that the rate of production of the oil governs the rate of production of the accompanying gas. Drilling programs may be revised from time to time. Any one of a number of combinations of elements may enter in to change the rate of production. Disregarding the rate of production or rather changes in the rate of production, estimates determining the ultimate economic recovery of casinghead gas may be determined within reasonable limits. Curves showing past production, estimated future total production, and estimated available marketable gas plotted on the same sheet are of material assistance when estimating gas reserves.

Performance of Average Well

Reviewing briefly the performance of the average oil well during its life, it may be summed up about as follows:

The total gas and oil during its flowing life is usually at a maximum following its initial completion. The gas factor or number of cubic feet of gas accompanying each barrel of oil is usually at a minimum at that time. As the life of the well increases both gas and oil production declines. The gas factor increases and continues to do so until the pumping stage is reached. Assuming now that the well is placed on the pump, the gas factor decreases, but begins to gradually increase again as pumping is continued. This increase is usually very slow under normal conditions.

Assuming that the well is placed on the gas lift either prior to the final flowing stage or period of heading or immediately afterward, the gas factor in many instances decreases. Usually an increase in oil is effected when the gas lift is used, and, while the gas factor may be lower, the total daily production of gas is generally increased. It is generally recognized that the gas lift as it is now being used is limited to a certain period in the life of a well, and when the rock pressure in the oil formation has become too low, the well will cease to produce under present methods of gas lift operation. Generally a well is placed on the pump before the final stage is reached, and this results in a marked decrease in daily casinghead gas production. Although the gas factor may be decreased, this does not always take place.

Other producing methods also affect the daily rate of production. The use of vacuum on pumping wells, in practically every instance, increases the daily casinghead gas production, also the gas factor. The use of the swab in producing oil increases the daily casinghead gas production and results in a large increase in the gas factor. The correct application of pressure control will in most instances result in a lower daily production of gas and in a lower gas factor, thus aiding in conserving the gas and lengthening the producing life of the field.

The use of any methods or practices which will tend to eliminate the abnormal peak productions when a considerable waste in casinghead gas occurs, should be encouraged.

Field for Excess Gas

A possible field for excess casinghead gas is offered in the repressuring of fields with the gas, at least during the summer months when pipe lines may not be operating at full capacity and excess pumping equipment may be available. A study of this possibility for conserving the gas is a large problem in itself, nevertheless it is one which should be given serious consideration. Where conditions are such that repressuring depleted oil sands with gas is possible, gas may be stored in the formations and later will become available for distribution.

ATLANTIC COAST USING MORE S. A. CRUDE OIL

(Continued from Page 39)

to the trade). Standard of New Jersey, as noted in the table below, uses imported crude at all of its Atlantic Coast plants, but the Charleston refinery is run largely on foreign oil, although not entirely.

Runs of Refineries

The following table shows estimated runs of imported crude oil at Atlantic Coast refineries for 1927, up to June 22, and also indicates source of oil (daily averages, in barrels):

Company	Loc. of Ref.	Cap. of Ref.	Amt. of Forgn. Crd. run	Source of Forgn. Crd. oil
Standard of New Jersey—				
Bayonne		180,000	8,000	Mexico
			13,000	Colombia
			500	Peru
Baltimore		32,000	1,600	Mexico
			3,400	Colombia
Charleston		10,000	2,000	Mexico
			2,200	Cartagena
			3,000	Peru
Gulf Refining—				
Bayonne		20,000	15,600	Venezuela
New England Oil—				
Fall River		30,000	3,000	Venezuela
			500	Peru
Atlantic Refining—				
Philadelphia		50,000	4,000	Venezuela
Beacon Oil—				
Boston		15,000	500	Mexico
			900	Colombia
Total		337,000	58,200	

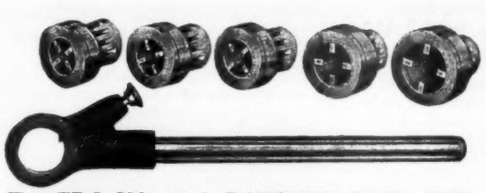
Trinidad at present supplies some gasoline, kerosene and fuel oil to the Atlantic Seaboard trade, but no imports of crude petroleum are coming from that country as yet. Plans for shipping Trinidad crude oil to Beacon Oil Co. at Boston coincide with the purchase of control of the Trinidad Oil Co. by a group associated with Louisiana Oil Refining Co. and Beacon Oil Co., announced recently.

Import Outlook

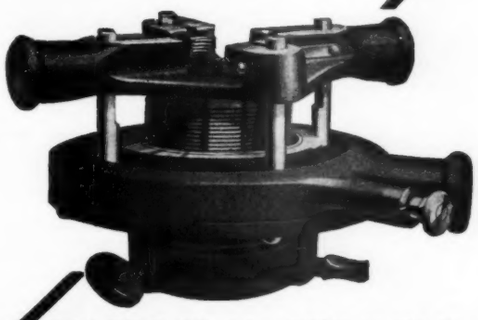
The present expansion in imports is significant in view of current domestic oil conditions. It is argued that if imports can increase under present conditions, the foreign contribution to the domestic market will show a vastly greater expansion when the domestic oil situation becomes stable.

The production of the foreign fields contributing to Atlantic Coast refineries consists principally of heavy oil, suitable for the manufacture of fuel oil, kerosene and asphalt. The gasoline yield of these crudes is not of great economic importance under present price conditions, but with higher prices for gasoline prevailing, the yield of gasoline will tend to encourage imports.

Although present conditions do not encourage imports, a great amount of money has been put into foreign oil development by American oil companies. These investments are now beginning to bear fruit in greater foreign production, especially in Colombia, Venezuela and Trinidad. As a result, a great potential production is awaiting the domestic markets as soon as there is economic ground for importing it.



TOLEDO NO. 00-A RATCHET TOOL FOR THREADING 1" TO 2" PIPE.



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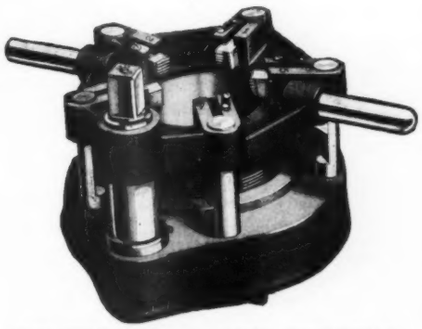

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WEST TEXAS ORGANIZES OIL AND GAS BUREAU

WICHITA FALLS, Tex., June 25.—Organization of the oil and gas bureau of the West Texas Chamber of Commerce was completed here at a meeting of the committee recently appointed to consider the plans for formations of the bureau. At the meeting H. J. Adair, for the past two years connected with the Wichita Falls Chamber of Commerce, was made manager. His headquarters will be in Wichita Falls, while the general headquarters will be in Stamford.

Members of the committee who attended the meeting in Wichita Falls were: W. B. Hamilton, Wichita Falls, general chairman; J. E. Thompson, Breckenridge; Leon Shield, Coleman, and Homer D. Wade, manager of the West Texas Chamber of Commerce.

At the recent meeting of the West Texas Chamber of Commerce a budget of $10,000 to carry on the work was adopted. The primary objects of the bureau are:

To educate the public to a real appreciation of the oil industry.

To encourage use of fuel oil and gas in industrial plants and make general survey with view of obtaining industrial expansion.

To oppose efforts to tax unjustly the industry or to place taxes thereon that will be inimical to the development of these natural resources.

To plan a conservation campaign in the oil and gas regions of the State.

To exploit the opportunities of the western section of the State in oil and gas production.

To co-operate with the Mid-Continent Oil and Gas Association and kindred organizations for the promotion and protection of the oil industry.

It is also planned by the bureau to gather statistics on every field in West Texas to be able to give authentic information.

It is the aim of the bureau to cooperate with the operators for the good of the industry and all West Texas. It is not planned to duplicate but to supplement the work that is being done by other agencies and to work hand in hand with them.

Plans are to be made for an industrial survey of West Texas with the idea of bringing in new industries. It is pointed out that many industrial plants in West Texas are using fuel other than oil and gas and it is the hope of the bureau that the situation may be so developed there will be a wider use of both oil and gas.

The members of the oil and gas bureau will meet from time to time to consider the work of the organization. The members on the board are: W. B. Hamilton, Wichita Falls, chairman; W. H. Holmes, Amarillo; J. E. Thompson, Breckenridge; Joe Weaver, Eastland; W. M. Massie, Fort Worth; Leon Shield, Coleman; Herbert O'Banion, San Angelo, and W. R. Keeble, Abilene. It is likely other names will be added.

COMMITTEE D-2 PRESENTS REPORT

(Continued from Page 38)

26T)[11], with slight revisions, submitted 26, Part I, p. 855 (1926); also 1926 Book of A. S. T. M. Tentative Standards, p. 487. by Sub-Committee XXIV on Calorific Value (R. W. Savidge, chairman) as follows:

Section 2.—Change to read as follows by the addition of the black face words and the omission of those in brackets:

"The calorimeter shall be provided with **a vacuum jacket or with a** water jacket having a cover to protect the calorimeter from air currents. [The jacket]. **In case a water jacket is used,** it shall be kept filled with water within 2 or 3 degrees Centigrade of the temperature of the room (except in calorimeters which are totally submerged, where the jacket temperature is controlled by a thermostat) and **this water** should be stirred continuously by some mechanical stirring device."

Recommended Amendment of Standard Method

The committee recommends the following amendments of standard methods to become effective immediately. It accordingly asks for the necessary nine-tenths vote.

Standard Method of Test for Water in Petroleum Products and Other Bituminous Materials (D 95-24)[12].—Amendments are recommended as submitted by Sub-Committee XIV on Water and Sediment (H. R. Gundlach, chairman) as follows:

Figure 1.—Change the vertical dimension of the copper still from 6 in. to 6.0 in. ±0.25 in., and the diameter from 3¾ in. to 3.7 in. ±0.2 in.

Insert after dimension H, the words "(Inside Diameter)."

Withdrawal of Standard Method

The committee recommends the withdrawal of the Standard Method of Test for Specific Gravity of Lubricants (D 47-24)[13].

Domestic Oil Fuel

Committee D-2's report on considerations involved in the preparation of specifications for domestic oil fuel follows:

This statement has for its purpose a discussion of the consideration involved in the preparation of specifications for domestic oil fuel, or the so-called furnace oils. It deals primarily with the properties which are important but does not attempt to fix limits, for the reason that only the manufacturer of each household oil burner is in a position to say exactly what oil is best for his particular equipment. It is the opinion of the committee that in the past a number of tests which are unessential or undesirable have been included in specifications, and in the recommended forms of specifications which follow, only those tests which are justified from the standpoint of usage are included. Due to the rather wide variation in types of fuel for which household burners are designed, it has been considered necessary to outline specifications for two main classes of oils, designated "A" and "B." Class A oils include the distillates related to kerosene, and Class B oils include the light fuel oils. Forms of specifications for these two classes of oils are presented.

Oil Characteristics Which Should Be Covered in Specifications:

The following tests should be included in specifications for domestic oil fuel. In listing these tests the committee has included comments intended to guide those intrusted with the completion of the attached forms for use as purchase specifications.

1. Flash—For Class A oils it is desirable to specify minimum and maximum flash points. The minimum flash point is necessary for compliance with legal requirements. Due to the very wide variation in the regulations of different states and municipalities, it is not possible for the committee to specify the instrument to be used in determining the minimum flash point. Accordingly, the instrument and minimum flash point, which are legal for the locality in which the oil is to be sold, should be ascertained by the user of these forms of specifications and be included in them. A maximum flash point is desirable in some instances to take care of the operating requirements of certain types of burner equipment. Since legal considerations do not enter here, the standard instrument and method of test given in the attached forms should be used. The maximum flash point should be above 150 degrees Fahrenheit in all cases, and for localities where the minimum flash is 150 degrees Fahrenheit, closed cup, it should be above 165 degrees Fahrenheit.

For Class B oils only a minimum flash point is considered necessary. A minimum of 150 degrees Fahrenheit, closed cup, is believed to be adequate to cover all legal and underwriters' requirements.

2. Water and Sediment.—Class A oils should be substantially free from water and sediment.

Class B oils should be reasonably free from these substances, but should not be expected to be as clean as Class A oils.

3. Pour Test.—If some indication of the solidification point of Class A oils is desired the Pour Test should be applied. This test is seldom necessary, but to cover special cases it may be used. A maximum of 0 degree Fahrenheit will cover most requirements.

For Class B oils the Pour Test should also be applied, since it is essential that the consumer be protected against wax-bearing distillates. A maximum of 30 degrees Fahrenheit will be adequate for general conditions.

4. Distillation Range.—A distillation requirement is necessary for Class A oils to limit deliveries to the type of oil desired, and to insure proper fluidity and volatility. Only the 10 per cent and 90 per cent points need be specified, the former to assure the proper amount of readily volatile material, and the latter to protect against excessive amounts of high-boiling constituents.

5. Viscosity.—For Class A oils no viscosity requirement is necessary, since the distillation range clause will insure proper fluidity.

For Class B oils a maximum value only should be set. A limit of 75 seconds at 100 degrees Fahrenheit, Saybolt Universal, is suggested.

6. Carbon Residue.—When the distillation range clause for Class A oils is properly drawn, no Carbon Residue requirements is necessary.

For Class B oils, a Carbon Residue requirement is generally unnecessary, but it may be included where the oil is intended for use in types of burners which are sensitive to excessive amounts of this material.

Undesirable Tests

Oil Characteristics Which Should Not be Covered in Specifications:

The following tests are undesirable for inclusion in specifications for either Class A or Class B oils. It should be borne in mind that the prices under which they are sold are of the greatest importance both to the burner manufacturers and to the consumer, and that specifications containing burdensome and unnecessary requirements will result in an increased price or a refusal of the refiner to offer oil under such conditions.

1. Gravity.—The gravity of an oil is of value only as an indirect and frequently unreliable, indicator of other characteristics. These forms of specifications are so drawn as to make gravity requirements entirely unnecessary.

2. Color and Odor.—Color has no bearing on the quality of the oil for the purpose in question. While some refiners artificially color their oils for identification purposes, any attempt to write color requirements into specifications will react unfavorably on both the burner manufacturer and the consumer.

Oils of this class cannot be expected to be odorless, and as odor cannot be specified in terms of any measurable standard, it should not be included.

3. Calorific Value.—While the calorific values of Class A and Class B oils are, of course, the reason for their use, there can be no valid comparison made between oil and coal in this respect. Oils are 100 per cent combustible, and the calorific value of an oil of a given class is subject to but slight variation. A difference of 5 degrees A. P. I. gravity will in general make a difference of not more than 2 per cent in B. t. u. per gallon.

4. Sulphur.—Oils of the classes under consideration vary somewhat in sulphur content, but they do not remotely approach the sulphur content of heavy industrial fuel oil. A sulphur requirement is unnecessary from the standpoint of the consumer, and the inclusion of such in specifications for Domestic Oil Fuel would have the inevitable tendency to limit the available supply and increase the price.

Proposed Form of Specifications for Domestic Oil Fuel, Class "A"

1. Scope.—These specifications cover oils closely related to kerosene oil and frequently referred to as kerosene distillates.

2. Properties.—The oil shall conform to the following requirements:

(a) Flash Point.

Minimum (instrument, method and temperature as specified)—degree Fahrenheit.

Maximum (Pensky-Martens Closed Tester)—degree Fahrenheit.

(b) Water and Sediment, maximum—per cent.

(c) Pour Point, maximum—degree Fahrenheit.

(d) Distillation Test:

When 10 per cent has been collected in the receiver the thermometer reading shall not exceed—degree Fahrenheit.

When 90 per cent has been collected in the receiver the thermometer reading shall not exceed—degree Fahrenheit.

3. Methods of Testing.—The properties enumerated in these specifications shall be determined in accordance with the following methods of test of the American Society for Testing Materials, except as specified in Paragraph (a).

(a) Flash Point:

Minimum.—The instrument and method for determining minimum flash point shall be that legal for the locality in which the oil is sold.

Maximum.—The maximum flash point shall be determined in accordance with the Standard Method of Test for Flash Point by Means of the Pensky-Martens Closed Tester (Serial Designation: D 93)[13].

(b) Water and Sediment: Standard Method of Test for Water and Sediment in Petroleum Products by Means of Centrifuge (Serial Designation: D 96)[13].

(c) Pour Point: Tentative Method of Test for Pour Points of Petroleum Products (Serial Designation: D 97-25 T)[14].

(d) Distillation Test: Tentative Method of Test for Distillation of Gasoline, Naphtha, Kerosene, and Similar Petroleum Products (Serial Designation: D 86-26T)[15].

Proposed Form of Specifications for Domestic Oil Fuel, Class "B"

1. Scope.—These specifications refer to oils generally known to the trade as light fuel oils, intended for general industrial consumption.

2. Properties.—The oil shall conform to the following requirements:

(a) Flash Point (Pensky-Martens Closed Tester) Minimum—degree Fahrenheit.

(b) Water and Sediment, maximum—per cent.

(c) Pour Point, maximum—degree Fahrenheit.

(d) Viscosity, Saybolt Universal at 100 degree Fahrenheit Maximum—seconds.

(e) Carbon Residue, maximum—per cent.

3. Methods of Testing.—The properties enumerated in these specifications shall be determined in accordance with the following methods of test of the American Society for Testing Materials:

(a) Flash Point.—Standard Method of Test of Flash Point by Means of the Pensky-Martens Closed Tester (Serial Designation: D 93)[16].

(b) Water and Sediment.—Standard Method of Test for Water and Sediment in Petroleum Products by Means of Centrifuge (Serial Designation: D 96)[16].

(c) Pour Point.—Tentative Method of Test for Cloud and Pour Points of Petroleum Products (Serial Designation: D 97-25T)[17].

(d) Viscosity.—Standard Method of Test for Viscosity of Petroleum Products and Lubricants (Serial Designation: D 88)[18].

(e) Carbon Residue.—Tentative Method of Test for Carbon Residue of Lubricants (Serial Designation: D 189-24T)[19].

[11]Proceedings, Am. Soc. Testing Mats., Vol. 26, Part I, p. 816 (1926); also 1926 Book of A. S. T. M. Tentative Standards, p. 348.

[12]1924 Book of A. S. T. M. Standards.

[13]1924 Book of A. S. T. M. Standards.

[14]Proceedings, Am. Soc. Testing Mats., Vol. 25, Part I, p. 725 (1925); also 1926 Book of A. S. T. M. Tentative Standards, p. 474.

[15]Proceedings, Am. Soc. Testing Mats., Vol. 26, Part I, p. 816 (1926); also 1926 Book of A. S. T. M. Tentative Standards, p. 348.

[16]1924 Book of A. S. T. M. Standards.

[17]Proceedings, Am. Soc. Testing Mats., Vol. 25, Part I, p. 725 (1925; also 1926 Book of A. S. T. M. Tentative Standards, p. 474.

[18]A. S. T. M. Standards Adopted in 1926.

[19]Proceedings, Am. Soc. Testing Mats., Vol. 24, Part I, p. 899 (1924); also 1926 Book of A. S. T. M. Tentative Standards, p. 471.

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Specify "Baker" and Be Safe

Baker Tools are the result of inventive genius plus years of intensive experimenting and development, and backed by first hand knowledge of conditions and requirements in oil country service. Their performance is as outstanding in this service as the tools themselves - - - superior in efficiency and reliability to a degree that makes successful imitation quite impossible.

Baker Cable Tool Core Barrel

The Baker Cable Tool Core Barrel

Simplicity of construction, with a minimum number of parts is an important and outstanding advantage of the Baker Cable Tool Core Barrel. The recovery of adequate and informative cores is practically certain even in the hardest formations, and all operators report an exceptionally high average of core recovered in relation to feet cored. Complete water circulation is always possible. Any experienced cable tool driller can operate the Baker Cable Tool Core Barrel with complete success in all formations and under all conditions.

Baker Core Barrel Tongs

The setting up of joints in the Baker Cable Tool Core Barrel after it has been taken apart for examination is an important factor in its operation. Because its dimensions differ from the various sizes of tools, tubing and casing on a standard rig, we have developed a tong for setting up these joints. It is inexpensive, made of steel and amply strong for the purpose intended, and will not crush or injure the core barrel. It is designed for use with the floor circle and jack. Will be found far superior to ordinary Crumbie tongs.

Baker Hydraulic Core Extractor

The Baker Hydraulic Core Extractor was primarily designed to extract cores from the Baker Cable Tool Core Barrel, though it can be used with core barrels of any type. It consists of a two-stage force pump fitted with a sub connection, one end of which fits the pump and the other the core tube. The pump is very simple, and has been thoroughly tested out. It has two plungers, high and low pressure, an adjustable handle - - - all affording a wide range of operation. A splendid, practical device for extracting your cores.

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KENTUCKY-TENNESSEE

(Continued from Page 70)

known by every Simpson County citizen. When everything looked brightest for county-wide development, the World War came to an end. The oil industry in this section of Kentucky was one of the first to feel the depression, and developers left the State in droves.

"But we are infrequently brought face to face with what for lack of a better name we call a 'comeback.' Yesterday a gentleman who keeps closely in touch with the oil development said:

"'This field has not been abandoned, and the fact that development was once started here and that nothing has been done for the past five years really amounts to nothing one way or the other. Too many evidences of the existence of oil are to be had, and when the supply starts to running low it is always the custom of those versed in the elusive game to enter the fields where past efforts have shown that oil exists. I have every reason for believing that one of the largest independent oil men in the West will be in Simpson County to drill a deep test well before the end of another year, and if success should crown his efforts our people would enjoy a season of prolonged prosperity.

"'But what is of far greater importance to us, since it is likely to produce activity at a much earlier day, is the fact that the Ohio Oil Co. recently acquired some territory in this section, and at such a time as suits the convenience of this corporation work will be started. Nothing is known of the company's intentions. In fact, I doubt if the party of the second part to the transaction has the least impression of the real meaning of the deal, but in good time the oil industry of Simpson County will be revived, and the second company will find the county provided with good roads and the town with adequate hotel facilities to make welcome all who see cause to take part in the work of development.'"

Tennessee

Conditions are improving somewhat in the Tennessee Field, although high water still prevails in many of the streams which are out of their banks, there being much damage done by the recent heavy storms. With better weather, a large amount of work will be done in Clay and surrounding counties, and leasing activities clear across the State are destined to bring much additional wildcatting.

Blick and others of the Celina Oil Co. again made a big strike when they drilled in No. 5 on the Rad Hawkins farm on Lock Branch on the Cumberland River in Jackson County. The oil was struck at the usual depth and flowed over the drilling rig and filled a large tank, the flow being estimated at better than 20 bbls. an hour. No. 4 on the same property is said to be better than 100 bbls. No. 6 has been started, and others will be drilled in rapid succession. This property is now regarded as the largest in the State of Tennessee and is attracting attention of the oil trade from all parts of the country because of its unusual shallow depth, the deepest well being less than 400 feet, and there is a scramble for desirable leases in the vicinity of these exceptionally large wells.

Lauren Thompson of Scottsvills, Ky., has started a well on the Dodson farm, across the river from the big wells on the Hawkins farm, and expects to strike pay sand the coming week. J. F. Carter of Nashville, Tenn., has taken over a portion of the Judge Gore lands adjoining the Hawkins farm and will develop the property as soon as a rig can be moved to the location.

McClurkin Pool

The most sensational strike in the McClurkin Pool on Mill Creek in Clay County was that of the Ohio Oil Co. in No. 1 on the J. Will Pennington, which on being drilled a few feet deeper struck a big flow, and oil rose high in the air, filled a 250-bbl. tank and then flowed several hours into the creek, covering the water for several miles. This well has been pumping for several months from a shallow sand, and adjoins the big well belonging to the same company on the Lem Cunningham, which also flowed several days before it was got under control. The owners have their own rig on the property and will drill a number of wells this season. The Ohio Oil Co. is also drilling on the D. B. Johnson farm, 1 mile south of Gainesboro, in Jackson County, and has moved a rig to Timothy Post Office, several miles southeast of Celina and in Overton County, where the company will drill two tests on a large block of leases on the big anticline worked out several years ago by the United States Geological Survey. This section has never had a thorough test, and the oil men will watch these wells with great interest.

Wittmer Brothers of the American Gas Co. of Pittsburgh are drilling a well several miles west of Gainesboro, near the mouth of Flynn's Lick in Jackson County. Same parties have moved a rig on the Gates farm, adjoining the James Arms farm in Peterman Bend in Clay County, 1 mile east of Celina, and also are preparing to start a well about 4 miles above this section on the Obey River. The Wittmers are experienced gas operators and are seeking a desirable gas territory.

John H. McClurkin has been compelled to shut down his well on the Doctor Tucker farm on Long Fork Creek, 6 miles west of Red Boiling Springs, in Macon County, on account of heavy gas pressure. This well has encountered 27 gas pockets, and the tools have been blown from the hole five times and considerable damage done to the drilling rig; the last gas blowout occurring at 400 feet. Work will likely resume early the coming week. Mr. McClurkin is drilling at around 100 feet on the Thomas Long farm at Spivy Post Office, 6 miles east of Boiling Springs and in Clay County.

Good Well Near Celina

Brandenburg and others report a good well on the Mrs. Coffee farm, 10 miles northeast of Celina, on Holly Creek, in Clay County. Pipe line connections have been arranged and oil will be run to the Paragon Development Co. Fred Starer, representing the Trenton Rock Oil Co. of Martinsville, Ill., is moving a rig to the W. B. Clark farm, 1 mile south of Celina, and will drill several wells on the block of leases owned by the company in that section of Clay County. Herndon & Mooreman of Cleveland, Ohio, are drilling well No. 3 on the James Arms farm in the Peterman Bend district. Koen and others of Miami, Fla., have started a well on the Coulson farm, 5 miles north of Celina, on a structure mapped out by Gene Perry of the State Geological Survey several years ago. Ion Carroll of Bowling Green, Ky., an old-time contractor, is moving in a rig from Covington, Ky., to drill several wells he has contracted for in this section.

While the trend of development appears to be westward from Celina, there is about as much work east and south, and indications are that a large amount of natural gas will be developed in time south of Clay and Macon Counties clear across the State, as gas is known to exist in at least several of the counties, as well as oil showings. In the test being drilled by the Kentucky-Tennessee Oil & Gas Co. on the Dr. C. E. Price farm, near the town of Belmont, to the south of Manchester, the county seat of Coffee County, and southwest of Warren County, both oil and gas showings have been found.

NO RIGHTS GAINED

Under departmental regulations no rights can be gained by filing application for an oil and gas permit for land embraced in an outstanding permit, the Department of the Interior has ruled in a decision affirming a finding by the commissioner of the General Land Office.

DRILLING IN SWITZERLAND

The drilling operations undertaken in 1925 to detect oil deposits which were believed to exist in the Linth Valley, near the Lake of Zurich, Switzerland, were unsuccessful, and were stopped at the end of 1926, at a depth of 4,000 feet.

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There are no frills in a McCord lubricator. Built for oil field use McCord lubricators are made extra strong to stand up under hard service.

McCord lubricators are built like a high grade automobile with all parts of drop forged steel. Numerous inspections in the course of manufacture along with a rigid final inspection insure long and satisfactory service.

Any pump unit can be removed for inspection or cleaning without disturbing any other unit and the only tool needed is a screw driver.

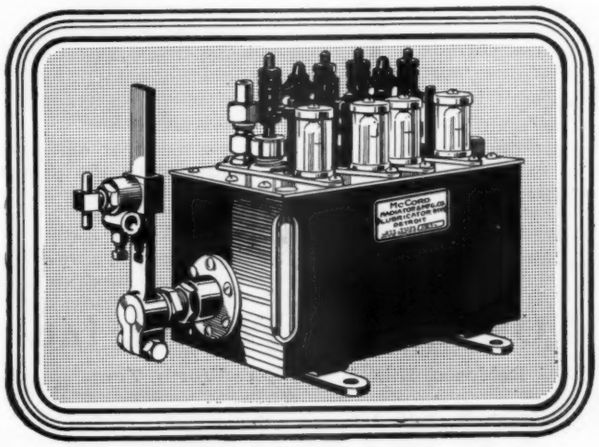
Is it any wonder no McCord lubricator has ever been known to wear out? That lubricators purchased ten and twelve years ago are still on the job.

Specify McCord lubricators "Standard of the oil fields" on your next engine pump or compressor.

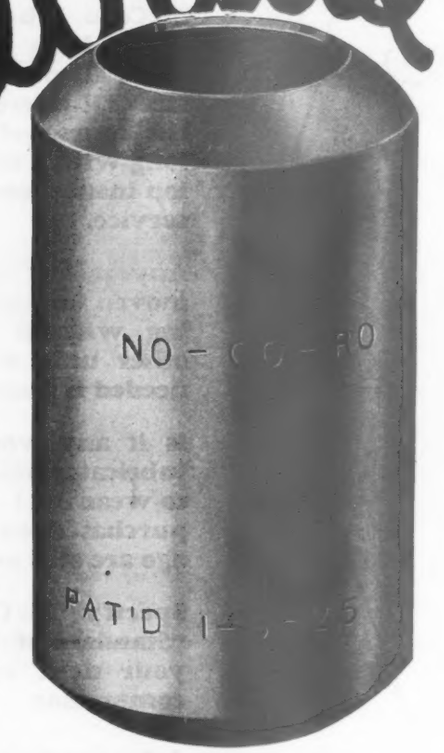
Ask your National Supply salesman for further details.

Standard of the Oil Fields

McCORD RADIATOR & MFG. CO.
Lubricator Division
DETROIT, MICH.



...here precision prevails



One of the Chief Reasons for the Almost Unbelievable Records the DROP & Seat is Making

A Kansas user of No-Co-Ro DROPS & Seats (name on request) just reports 36 months' service in a well in which the balls and seats were changed *every month.*

While such service is due primarily to *design,* materials and workmanship also play an important role. The metal in No-Co-Ro DROPS & Seats is specially prepared according to an exacting formula. It combines amazing hardness with equally amazing resistance to shock. It will not pit, chip or corrode even under the most adverse conditions.

Machining and heat treating are done under the personal supervision of officials with 35 years' experience to guide them. Throughout the process of manufacture, precision prevails!

That is why we are able to guarantee every No-Co-Ro DROP & Seat to outlast and out-perform any two balls and seats you have ever used.

NORRIS BROTHERS, Inc.

Robinson, Illinois, and Fort Worth, Texas

No-Co-Ro Balls & Seats are Guaranteed to Outlast the Best Balls & Seats You Have Ever Used.

CRUDE PRODUCTION FOR 12 MONTHS INCREASES TO 846,510,314 BARRELS

By James McIntyre

A total of 846,510,314 bbls. of crude oil was produced in the United States for the 12 months ending May 31. The production in May was 77,667,431 bbls., or 14,545,376 bbls. in excess of the production in May last year. The production for the 12 months ending May 31 was 96,493,613 bbls. in excess of the production for the same length of time ending May 31, 1926, which registered 750,015,777 bbls.

The most noticeable gain in May over the April showing was in the West Texas area, which averaged 113,351 bbls., or 21,615 bbls. a day over its April production. The California fields, where a further shutting in of production was effected in May, showed a decline of 20,566 bbls. a day from the April production. The Oklahoma fields, notwithstanding an increase of 12,781 bbls. in the Seminole Field, had a general increase of only 6,898 bbls. a day. Kansas increased 1,144 bbls. a day over its April record. The Gulf Coast-Southwest Texas area increased 4,406 bbls. a day, and the Mid-Continent area increased 34,484 bbls. per day.

Following are the figures, which include production by pool for the States of Kansas, Oklahoma, Texas, California, Arkansas and Louisiana:

SUMMARY BY PRODUCING DIVISIONS
Crude Oil Production in Barrels in May, 1927

Mid-Continent Fields

	Daily Av.	Month
Kansas	118,827	3,683,637
Oklahoma	749,670	23,239,770
North Texas	103,313	3,202,703
Central Texas	68,858	2,134,598
West Texas	113,351	3,513,881
Panhandle of Texas	134,636	4,173,716
East Central Texas	34,388	1,066,028
Arkansas	112,699	3,493,669
North Louisiana	47,410	1,469,710
Total May	1,483,152	45,977,712
Total April	1,448,668	43,060,040
Difference	34,484	2,917,672

Gulf Coast and Southwest Texas

	Daily Av.	Month
Gulf Coast (Tex.-La.)	153,617	4,762,127
Southwest Texas	35,233	1,092,223
Total May	188,850	5,854,350
Total April	184,444	5,533,320
Difference	4,406	321,030

Production by States

	Daily Av.	Month
Kansas	118,827	3,683,637
Oklahoma	749,670	23,239,770
Texas	628,381	19,479,811
Arkansas	112,699	3,493,669
Louisiana	62,425	1,935,175
Total May	1,672,002	51,832,062
Total April	1,633,112	48,993,360
Difference	38,890	2,838,702

Production of the United States

	Daily Av.	Month
Oklahoma	749,670	23,239,770
California	629,228	19,506,054
Texas	628,381	19,479,811
Arkansas	112,699	3,493,669
Kansas	118,827	3,683,637
Louisiana	62,425	1,935,175
Rocky Mountain	88,471	2,742,588
Eastern fields	115,700	3,586,700
Total May	2,505,401	77,667,431
Total April	2,485,898	74,576,940
Difference	19,603	3,090,491

KANSAS
Daily Average and Total Monthly Production in May, 1927

Marion County—	Daily Av.	Month
Florence	800	24,800
Peabody	1,406	43,586
Covert-Sellers	771	23,901
Lost Springs	252	7,812
Total	3,229	100,099
Butler County—		
Elbing	2,619	81,189
Potwin	393	12,183
Cameron-Robinson	593	18,383
Wilson-Dunkle	1,541	47,771
Towanda	2,703	83,793
Fox-Bush	1,287	39,897
Nuttle-Koogler	1,971	61,101
Eldorado	7,857	243,567
Smock	223	6,913
Leon-Weaver	3,229	100,099
North Augusta	1,328	41,168
South Augusta	1,869	57,939
Sluss	360	11,160
Benton	64	1,984
Douglas	132	4,092
Keighly	2,939	91,109
Eastern Butler	1,234	38,254
Total	30,342	940,602
Greenwood-Woodson Counties—		
Sallyards	1,397	43,307
Teeter-Pixley-Scott	11,024	341,744
Virgil	4,222	130,882
Thrall-Burkett	2,635	81,685
Seely	11,463	356,043
Polhamus	1,514	46,934
Miscellaneous	2,668	82,708
Total	34,913	1,082,302
Cowley County—		
Rainbow Bend	2,278	70,618
Slick	1,313	40,703
Graham	582	18,042
Rock (Twp. 30-4)	272	8,432
Clark (Twp. 31-5)	226	7,006
Eastman (Twps. 30-6 and 31-6)	724	22,444
Winfield-New Salem (Twps 32-4 and 32-5)	3,634	112,654
Miscellaneous	439	13,609
Total	9,468	293,508
Other Counties—		
Sumner	19,108	592,348
Kingman	11	341
Rice	2,098	65,038
Russell	3,049	94,519
Harvey	57	1,767
Chautauqua	2,463	76,353
Elk	2,315	71,765
Montgomery	1,872	58,032
Wilson	256	7,936
Allen	605	18,755
Neosho	659	20,429
Lyon	2,185	67,735
Miami	2,866	88,846
Franklin	357	11,067
Douglas	69	2,139
Bourbon	34	1,054
Linn	220	6,820
Anderson	2,377	73,687
Coffey	247	7,657
Labette	27	837
Total	40,875	1,267,125
Total May	118,827	3,683,637
Total April	117,683	3,530,490
Difference	1,144	153,147

OKLAHOMA
Daily Average and Total Monthly Production in May, 1927

	Daily Av.	Month
Washington County	6,101	189,131
Nowata County	4,794	148,614
Rogers County	1,851	57,381
Osage and Eastern Kay Counties—		
Burbank	45,896	1,422,776
Osage, outside Burbank	31,084	963,604
Total	76,980	2,386,380
Tulsa County—		
Bird Creek, Owasso, etc.	4,292	133,052
Red Fork, Sand Springs, Bruner, Turkey Mountain and Fisher	4,824	149,544
Bixby, Leonard and Jenks	2,707	83,917
Broken Arrow and Coweta	1,161	35,991
Total	12,984	402,504
Okmulgee, Muskogee and N. Okfuskee Counties—		
Mounds, Beggs, Hamilton Switch, Youngstown	8,483	262,973
Bald Hill and Haskell	3,713	115,103
Morris, Boynton, Cole	2,867	88,877
Okmulgee	2,475	76,725
Tiger Flats, Henryetta, Schulter, Bartlett	2,598	80,538
Total	20,136	624,216
Okfuskee, Seminole and Hughes Counties—		
Seminole:		
Seminole City	152,428	4,725,268
Earlsboro	60,866	1,886,846
Searight	35,397	1,097,307
Bowlegs	99,981	3,099,411
Total Seminole	348,672	10,808,832
Deaner Lyons	3,500	108,500
Wewoka	19,735	611,785
Cromwell	12,885	399,435
Papoose-Gilcrease	7,243	224,533
Weleetka	1,042	32,302
Holm-Jarvis	1,533	47,523
Yeager	523	16,213
Miscellaneous	427	13,237
Total	395,560	12,262,360
Creek County—		
Cushing-Shamrock	19,150	593,650
Glenn Pool, Sapulpa and Kiefer	7,980	247,380
Bristow, Kellyville and Depew	21,813	676,203
North Bristow and Pickett Prairie	4,309	133,579
Eastern Bristow or Slick	4,583	142,073
Total	57,835	1,792,885
Pawnee County—		
Cleveland	3,382	104,842
Keystone	3,015	93,465
Jennings	3,818	118,358
Otoe or Watchorn	2,217	68,727
Masham	40	1,240
Ralston	177	5,487
Total	12,649	392,119
Payne County—		
Yale, Quay and Ingalls	5,541	171,771
N. Cushing or March Pool	3,297	102,207
Deep Rock (23-18-3)	2,752	85,312
Total	11,590	359,290
Lincoln County—		
Stroud	1,450	44,950
Davenport	3,555	110,205
Kendrick	40	1,240
Total	5,045	156,395
Kay, Grant and Noble Counties—		
Blackwell	1,474	45,694
Otstot	1,390	43,090
Vernon	945	29,295
Deer Creek	685	21,235
Ponca City	754	23,374
Mervine	312	9,672
North Braman	6,415	198,865
South Braman	3,115	96,565
Hubbard	7,751	240,281
Thomas	1,521	47,151
Tonkawa	22,312	691,672

Rhodes Master Packing

Recommended for Hydraulic Presses—Air and Ammonia Compressors—Steam Engines—Turbines—Hot or Cold Gasoline Pumps—Steam Hammers—Swivels—Oil Field Pumps—High Pressure Gate and Globe Valves.

RHODES MASTER PACKING is a metallic packing for *Universal* use with all pressures and temperatures up to 500° F. It is soft, pliable, and specially lubricated throughout. It is giving highly satisfactory service in gas and air lift installations, and in general refinery and gasoline plant use.

A special packing is made for use in gasoline pumps.

Made in sizes from 3/16″ to 1″, 1⅛″, and 1¼″. Special cut rings for any size rods at no extra cost.

Carter Oil Co. has 84 compressors packed with Rhodes Master Packing.

Stocked By

Republic Supply Company

OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS

Cable Sense

Cable sense is sometimes spelled "Cable cents," depending entirely upon your selection of the various brands.

You can buy a cheap cable which will no doubt look good—but when you get it on your rig and it gives you less service and more trouble, you will recognize this cheapness as false economy.

The best quality Cable is none too good to stand the grief of drilling.

Columbian Pure Manila Cable

is a quality product which has no superior. Because of its two outstanding characteristics of toughness and elasticity, it is one of the fastest drilling and most serviceable cables on the market.

It is decidedly Cable Sense to use a Columbian Pure Manila Cable.

DISTRIBUTED BY
THE NATIONAL SUPPLY COMPANIES
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342-70 Genesee Street

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Branches:—
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"Drill with Manila"

By Invitation Member
Emblem of BUSINESS CHARACTER
Rice Leaders of the World Association
Represents High Standing in NAME-PRODUCT-POLICY

Billings	291	9,021
Miscellaneous	495	15,345
Total	47,460	1,471,260
Garfield County—		
Garber	15,754	488,374
Carter County—		
Healdton	15,142	469,402
Hewitt	9,965	308,915
Graham	5,592	173,352
Fox	3,740	115,940
Brock	1,136	35,216
Tussy or Scholem Aelchem	16,526	512,306
Total	52,101	1,615,131
Stephens-Cotton Counties—		
Loco-Milroy	2,237	69,347
Comanche	894	27,714
Duncan	5,752	178,312
Walters	851	26,381
Kilgore	154	4,774
Total	9,888	306,528
Jefferson County—		
Hambro	1,946	60,326
Caddo County—		
Cement	1,983	61,473
Garvin County—		
Robberson	2,793	86,583
Grady County—		
Knox	9,210	285,510
Beckham County—		
Sayre	57	1,767
Pontotoc County—		
Allen, Lloyd and Francis	646	20,026
Pottawatomie County—		
Maud	2,186	67,766
Marshall County—		
Madill	121	3,751
Total May	749,670	23,239,770
Total April	742,972	22,289,160
Difference	6,898	950,610

NORTH AND CENTRAL TEXAS

Daily Average and Total Monthly Production in May, 1927

North Central Texas—	Daily Av.	Month
Burkburnett	13,204	409,324
Electra	14,988	464,628
Iowa Park K. M. A.	3,969	123,039
Archer County	29,414	911,834
Clay County	749	23,219
Wilbarger	13,488	418,128
Montague County	12,714	394,134
Young County	11,826	366,606
Baylor County	101	3,131
Cooke County	2,860	88,660
Total	103,313	3,202,703
Central Texas—		
Clear Fork	7,753	240,343
Breckenridge	4,524	140,244
Caddo	3,136	97,216
Ranger-Eastland	7,367	228,377
Rising Star	50	1,550
Sipe Springs	129	3,999
Desdemona	1,450	44,950
Pioneer	423	13,113
Brown County	26,892	833,652
Calahan County	3,945	122,295
Coleman County	1,164	36,084
Throckmorton County	1,799	55,769
Jack County	450	13,950
Palo Pinto County	507	15,717
Shackelford County	9,269	287,339
Throckmorton County	1,799	55,769
Total	68,858	2,134,598
West Texas—		
Reagan County	25,174	780,394
Mitchell County	3,825	118,575
Winkler County	905	28,055
Howard County	2,734	84,754
Scurry County	54	1,674
Upton-Crane Counties	67,092	2,079,852
Crockett County	844	26,164
Loving County	18	558
Pecos County	12,661	392,491
Ector County	14	434
Garza County	30	930
Total	113,351	3,513,881
Panhandle—		
Carson County	13,990	433,690
Hutchinson County	106,947	3,315,357
Wheeler County	2,561	79,391
Gray County	11,113	344,503
Potter County	25	775
Total	134,636	4,173,716
East Central Texas—		
Powell	16,405	508,555
Mexia	10,613	329,003
Nigger Creek	2,472	76,632
Currie	723	22,413
Richland	889	27,559
Wortham	3,286	101,866
Total	34,388	1,066,026
Total all fields, May	454,546	14,090,926
Total all fields, April	425,030	12,750,900
Difference	29,516	1,340,026

NORTH LOUISIANA

Daily Average and Total Monthly Production for May, 1927

	Daily Av.	Month
Caddo light	9,525	295,275
Caddo heavy	4,625	143,375
Bellevue	1,400	43,400
Cotton Valley	5,700	176,700
DeSoto, Crichton and Bull Bayou	3,560	110,360
Elm Grove	615	19,065
Haynesville	7,750	240,250
Homer	5,190	160,890
Urania	8,600	266,600
Pleasant Hill	445	13,795
Total May	47,410	1,469,710
Total April	50,375	1,511,250
Difference	2,965	41,540

ARKANSAS

Daily Average and Total Monthly Production for May

Bradley	110	3,410
El Dorado	6,210	192,510
Lisbon	3,960	122,760
Nevada	1,469	45,540
Smackover light	11,115	344,565
Smackover heavy	88,490	2,743,190
Stephens	1,345	41,695
Total May	112,699	3,493,670
Total April	112,608	3,378,240
Difference	91	115,430

GULF COAST

Daily Average and Total Monthly Production in May, 1927

District	Daily Av.	Month
Boling	2,110	65,410
Batson	1,521	47,151
Blue Ridge	4,112	127,472
Big Creek	5,192	160,952
Barber Hill	900	27,900
Dayton	32	992
Damon Mound	924	28,644
Edgerly (La.)	662	20,522
Goose Creek	8,851	274,381
Humble	4,395	136,245
Hull	19,477	603,787
High Island	405	12,555
Jennings (La.)	968	30,008
Lockport (La.)	6,977	216,287
Markham	462	14,322
Nash	1,102	34,162
Orange	5,610	173,910
Orchard	172	5,332
Pierce Junction	9,080	281,480
Piedras Pintas	84	2,604
Spindletop	54,150	1,678,650
Saratoga	1,135	35,185
Sour Lake	4,639	143,809
South Liberty	3,429	106,299
Stark (La.)	1,144	35,464
Vinton (La.)	5,226	162,006
Welsh-Anse La Bute (La.)	38	1,178
West Columbia	9,224	285,944
*Miscellaneous	1,596	49,476
Total for May	153,617	4,762,127
Total for April	147,352	4,420,560
Difference	6,265	341,567

*Includes Washington, Nacogdoches and Kleberg Counties in Texas; Cameron, Calcasieu and Iberia Parishes in Louisiana.

The South Louisiana pools are credited with 465,465 bbls. of the production for the month.

SOUTHWEST TEXAS

Daily Average and Total Monthly Production in May, 1927

Field—	Daily Av.	Month
Luling	16,850	522,350
Mirando (Laredo)	13,930	431,830
Somerset	1,205	37,355
Calliham	30	930
Rockdale-Minerva	1,026	31,806
Lytton Springs	2,192	67,952
Total for May	35,233	1,092,233
Total for April	37,092	1,112,760
Difference	1,759	20,527

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for May amounted to 19,506,054 bbls., an average of 629,228 bbls. per day. This is a decrease of 20,566 bbls. per day under April production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 1,051,581 bbls. The total stocks at the end of the month were 146,247,762 bbls. The total stock increase for 1927, up to May 31, was 635,586 bbls.

Eighty wells were completed during the month with an initial daily production of 52,575 bbls., compared with 105 wells completed during April with an initial production of 81,432 bbls.

PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

District—	Barrels per month	Daily average May, 1927	Daily average April, 1927	May, 1926
Kern River	436,010	14,065	13,950	11,914
Mount Poso	2,329	75	128	.....
Round Mountain	600	19	.....	.....
McKittrick	157,529	5,082	5,266	5,381
Midway-Sunset	2,795,270	90,170	92,182	94,323
Elk Hills	770,144	24,843	28,720	33,609
Lost Hills-Belr.dge	118,604	3,826	4,239	4,603
Coalinga	622,112	20,068	20,674	20,288
Wheeler Ridge	31,784	1,025	1,049	937
Watsonville	1,782	57	58	57
Santa Maria	154,352	4,979	5,069	5,082
Summerland	4,185	135	152	128
Goleta	5,019	162	190	.....
Ventura Avenue	1,258,003	40,581	51,748	32,867
Ventura-Newhall	188,333	6,075	6,242	5,980
Los Angeles-Salt Lake	54,078	1,744	1,818	1,794
Whittier	63,436	2,046	1,863	2,121
Fullerton (Brea-Olinda)	491,396	15,851	22,589	17,476
Coyote	442,606	14,278	14,519	16,885
Santa Fe Springs	1,330,515	42,920	43,313	48,272
Montebello	476,221	15,362	16,122	17,912

THE CROSS CRACKING PROCESS

SAFETY INHERENT
in the Cross Cracking Process

By the use of a continuous flow of oil passing in a small stream at high velocity through the heating zone to a large reaction chamber outside the furnace, the CROSS CRACKING PROCESS does away with any possible danger in cracking oil.

There is no chance for carbon to be precipitated in the heating zone by the cracking reaction. Nor for such deposited carbon to build up an insulating barrier between the heat and the oil —causing containers or tubes to burn out and leak—often with disastrous results.

Only between 30 and 40 barrels of oil are under high pressure in the furnace and reaction chamber. In fact, the whole system can be emptied in less than 30 seconds.

Of the many CROSS installations in service—plants having a throughput capacity of over 200,000 barrels daily—not a single unit has suffered an explosion.

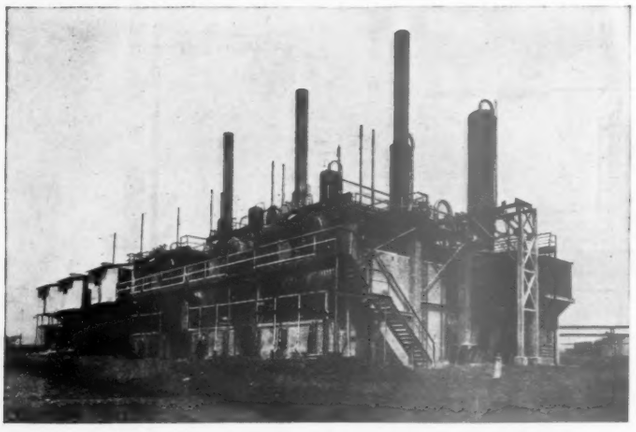
KELLOGG

CROSS CRACKING PLANTS~BUBBLE TOWERS~PIPE STILLS~HEAT EXCHANGERS~GRAY TREATING TOWERS~TREATING PLANTS

THE M. W. KELLOGG CO., 7 DEY STREET ~ NEW YORK

KANSAS CITY, MO., 700 BALTIMORE AVE. ~ SAN FRANCISCO, CAL., 444 MARKET ST.
LOS ANGELES, CAL., 1019 HELLMAN BANK BLDG.

The Insulation of Cracking Stills



THESE JENKINS PROCESS STILLS IN THE ELDORADO, KANSAS, PLANT OF SKELLY OIL COMPANY ARE INSULATED WITH SIL-O-CEL.

WHERE CONCRETE still settings are used it is especially important that the refractory lining of the furnaces be backed with insulation to protect the concrete from spalling.

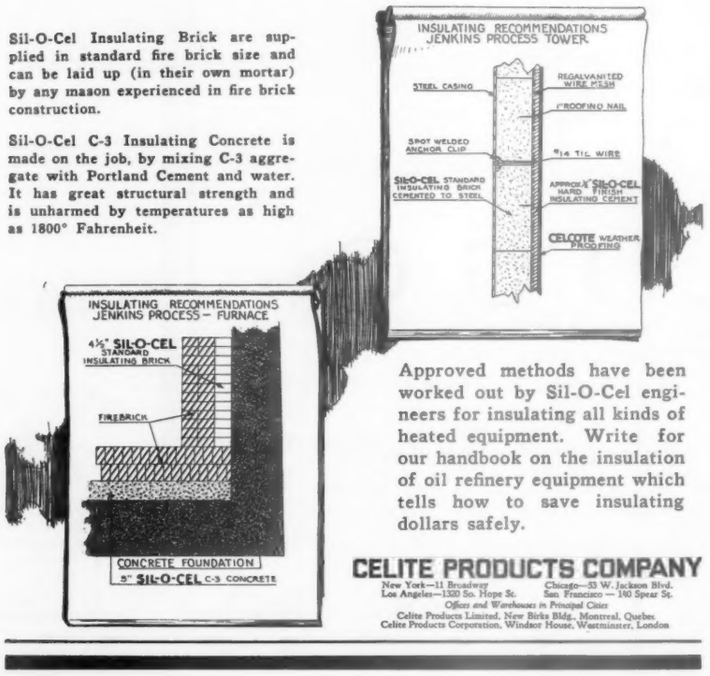
Sil-O-Cel insulating brick in the walls and Sil-O-Cel C-3 Insulating Concrete in the base provide ample protection at no cost whatever for this insulated construction pays for itself in fuel savings alone within the first year of average service.

SIL-O-CEL

Sil-O-Cel insulating materials are supplied in the forms of brick, block, powder, cement and "C-3" calcined aggregate, to meet every heat insulating requirement of refineries and gasoline plants.

Sil-O-Cel Insulating Brick are supplied in standard fire brick size and can be laid up (in their own mortar) by any mason experienced in fire brick construction.

Sil-O-Cel C-3 Insulating Concrete is made on the job, by mixing C-3 aggregate with Portland Cement and water. It has great structural strength and is unharmed by temperatures as high as 1800° Fahrenheit.



Approved methods have been worked out by Sil-O-Cel engineers for insulating all kinds of heated equipment. Write for our handbook on the insulation of oil refinery equipment which tells how to save insulating dollars safely.

CELITE PRODUCTS COMPANY

New York—11 Broadway Chicago—53 W. Jackson Blvd.
Los Angeles—1320 So. Hope St. San Francisco — 140 Spear St.
Offices and Warehouses in Principal Cities
Celite Products Limited, New Birks Bldg., Montreal, Quebec.
Celite Products Corporation, Windsor House, Westminster, London

District—	Barrels per month	Daily average May, 1927	Daily average April, 1927	Daily average May, 1926
Richfield	656,686	21,183	21,455	13,973
Huntington Beach	2,384,783	76,928	76,820	43,901
Long Beach	2,854,857	92,093	93,367	106,472
Torrance	728,577	23,825	24,236	23,554
Dominguez	508,025	16,385	17,165	21,031
Rosecrans	315,819	10,188	11,655	18,639
Inglewood	1,110,955	35,837	37,136	51,302
Newport	1,471	47	54	86
Seal Beach	1,530,543	49,372	†38,019	.....
Total	19,506,054	629,228	†649,794	602,103
April	†19,493,825	†649,794	.....	.....
Decrease	*12,229	20,566	.....	.....

*Increase. †In April report total production of State was understated by 27,738 bbls. due to omission of that amount in Seal Beach Field. Corrected figures are used in this report.

STOCKS

	May 31, 1927	April 30, 1927	May stock Decreases	May 31, 1926
Heavy crude, heavier than 20° A. P. I., including all grades of fuel	91,695,285	89,666,735	*2,028,550	88,475,402
Refinable crude, 20° A. P. I., and lighter	27,365,926	29,418,335	2,052,409	37,944,328
Gasoline	13,602,175	14,565,364	963,189	16,884,622
Naphtha distillates	3,659,951	3,741,718	81,767	5,184,540
All other stocks	9,924,425	9,907,191	*17,234	10,223,178
Total all stocks	146,247,762	147,299,343	1,051,581	151,732,070

*Increase.

DEVELOPMENT

District—	New rigs up	Active drilling	Completed	Daily initial output	Active producing	Abandoned wells—Drillers	Abandoned wells—Producers
Kern River	6	10	12	2,055	1,294	..	..
Mount Poso	...	2	1	700	3	..	..
Round Mountain	1	1	1	500	1	..	..
McKittrick	...	...	1	30	312	..	..
Midway-Sunset	1	17	4	410	2,987	2	1
Elk Hills	...	...	...	.....	233	..	..
Lost Hills-Belridge	...	2	...	.....	250	..	..
Coalinga	...	5	1	78	977	..	..
Wheeler Ridge	...	1	...	.....	28	..	..
Watsonville	...	...	...	.....	6	..	..
Santa Maria	...	4	...	.....	186	1	..
Summerland	...	2	...	.....	92	..	..
Ventura Avenue	2	25	...	.....	77	..	..
Goleta	2	4	1	500	2	..	..
Ventura-Newhall	1	34	...	.....	513	2	..
Los Angeles-Salt Lake	...	...	...	.....	342	..	..
Whittier	...	...	...	.....	181	..	..
Fullerton	1	12	1	825	390	..	..
Coyote	...	3	...	.....	209	..	..
Santa Fe Springs	...	1	...	.....	338	..	2
Montebello	1	4	2	325	181	..	..
Richfield	3	27	6	1,757	223	..	1
Huntington Beach	8	30	14	5,020	542	1	2
Torrance	...	...	2	424	656	..	3
Long Beach	7	19	6	3,063	693	..	6
Dominguez	...	3	...	.....	75	1	..
Rosecrans	..	1	...	.....	121	..	..
Inglewood	1	2	...	.....	216	1	..
Seal Beach	13	104	28	36,888	55	..	..
Newport	...	2	...	.....	8	..	..
Miscellaneous drilling	3	129	...	.....	.....	11	..
May	50	444	80	52,575	11,191	19	13
April	128	503	105	81,432	11,323	31	37
Decrease	78	59	25	28,857	132	12	24
Average for year 1926	95	422	76	32,635	11,288	24	17
Average for year 1925	105	417	79	42,247	11,393	28	12
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	759	82	114,690	8,928	24	
Average for year 1922	115	605	67	43,700	9,410	17	

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended June 18 totaled 1,189,000 bbls., a daily average of 169,857 bbls., compared with 1,181,000 bbls., a daily average of 168,714 bbls. for the week ended June 11 and a daily average of 173,714 bbls. for the four weeks ended June 18.

	Week ended June 11
At Atlantic Coast ports:	
Boston	112,000
New York	523,000
Philadelphia	202,000
Others	159,000
Total	996,000
Daily average	142,286
At Gulf Coast ports:	
Galveston district	20,000
New Orleans and Baton Rouge	173,000
Total	193,000
Daily average	27,571
At all United States ports:	
Total	1,189,000
Daily average	169,857
Daily average four weeks	173,714

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended June 18 totaled 601,000 bbls., a daily average of 85,857 bbls., against 900,000 bbls., a daily average of 128,571 bbls., for the week ended June 11 and a daily average of 78,964 bbls. for the four weeks ended June 18.

	Week ended June 18
At Atlantic Coast ports:	
Baltimore	220,000
Boston	95,000
New York	148,000
Philadelphia	74,000
Others	64,000
Total	601,000
Daily average	85,857
Daily average four weeks	78,964
Distribution of total California receipts is as follows:	
Crude	293,000
Gasoline	244,000
Fuel oil	64,000
Total	601,000

Umpleby's Company Has Completed 550 Wells in Bradford

BRADFORD, Pa., June 25.—The Petroleum Reclamation Co. has now finished the first, second and third drilling campaigns on its properties in the Bradford Field. The water wells and the first and second lines of oil wells have now been finished on both the Mc and the Looker properties, about 55 wells having been completed on the two. This company has been running as high as 26 strings of tools but is now down to 6 strings which are being kept busy on odds and ends and the drilling of additional locations.

The Petroleum Reclamation Co., ever since its entrance into the Bradford Field in 1925, has been developing its properties on a scientific basis under the direction of Dr. Joseph B. Umpleby, who is president of the company and also president of the Goldelline Oil Corp. of Oklahoma City, Okla. On one of its experimental air properties it has had an increase in production amounting to about 700 per cent. Doctor Umpleby says that the Bradford Field is undoubtedly the world's greatest oil laboratory due to the fact that wells can be completed here for about $3,000, that there are no dry holes and the sands are uniform.

D. G. BRADNER DEAD

David G. Bradner, aged 81 years, died at the home of his daughter at Warren, Ohio, June 10. Mr. Bradner was a veteran oil operator in the Pennsylvania fields and in connection with the Oil Co., operated in West Virginia, developing a valuable property.

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EASTERN FIELDS

(Continued from Page 68)

has the rig completed for a test on the J. P. Knight heirs' farm. In Lee district, the Ohio Fuel Oil Co. is drilling a test on the J. L. Stump farm. In Sherman district, C. B. Lewis & Co. are due in the sand on the M. Westfall farm.

In Harper district, Roane County, the John Hamilton Oil Co. is due in the sand at a test on the S. M. Curry farm. In Poca district, Kanawha County, the South Penn Oil Co. is due in the sand at a test on the J. M. Fields farm. In Carroll district, Lincoln County, the Cambridge Gas Co. is due in the Berea grit at a test on the J. M. Lucas farm. In Union district, the Foote Oil & Gas Co. has a rig up on the E. G. Stone farm.

In Henry district, Clay County, the South Penn Oil Co. has completed in the Big Injun sand a second test on the James Phillips farm. It is good for 15 bbls. a day. On McFarlan Creek, Murphy district, Ritchie County, the Hope Natural Gas Co. has a 2-bbl. pumper at a test on the Bradley heirs' farm. When shot its production will be increased.

On the waters of Twelve Pole Creek, Harvey district, Mingo County, the Public Gas Corp. has drilled deeper No. 4 on the Logan Cannel Coal Co.'s tract. It is a small gasser. In New Milton district, Doddridge County, G. E. Trainer has completed a 5-bbl. well in the Big Injun sand.

Drilling and Starting Tests

On Clover Run, Smithfield district, Roane County, Godfrey L. Cabot has started to drill a second test on the T. M. Perot farm, 1,500 feet north of the first test on this farm. In Grant district, Pleasants County, George Pickens and others are drilling a test on the Mammett heirs' farm. In Lubeck district, Wood County, Park Bowser is rigging up on the Patrick Doyle farm.

In Grant district, Pleasants County, Sherman, Jenkins & Co. are drilling a test on the G. S. Hammett farm. In Jefferson district, Ralston & Morrison are drilling on the Robert Ingram farm. In the same district, Edward Hileman is drilling on the Howard Pryor farm. In Lincoln district, Marion County, the Owens Bottle & Machine Co. has started to drill a test on the Okey Roamine farm. In Paw Paw district, Victor Tennent is building a rig on the Homer Amos farm.

In Sherman district, Calhoun County, C. B. Lewis and others have the rig completed for a test on the Hannah Osborne farm. In Lee district, Kingsbury & Co. have started to drill on the L. L. Lynch farm. In Sherman district, McIntosh & Miller are drilling on the A. Shook farm. E. L. Beacher and others are still shut down at their test on the Pearl Burch farm. In Lee district, the Ohio Fuel Oil Co. has a bad hole at its test on the James D. Stump farm.

Will Drill Deeper

In Otter district, Braxton County, H. C. Zogg & Co. are rigging up to drill deeper their test on the Henry Belknap farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. is rigging up to drill to the lower sands it second test on the W. B. and Emma Calvert farm.

On the Little Cove Creek, Troy district, Gilmer County, the Carnegie Natural Gas Co. is due in the Maxon sand at a test on the Cecil McGuane farm. In Center district, Wetzel County, the Manufacturers Light & Heat Co. has the rig completed for a test on the Joseph Kirkland farm. This location is removed some distance from production. In McClelland district, Doddridge County, G. L. Cabot has made a location on the N. G. Mayfield farm. In McComas district, Cabell County, the Pittsburgh & West Virginia Gas Co. has a location on the T. J. Morris farm. In Carroll district, Lincoln County, the Ray Gas Co. has made a location on the J. L. Vickers farm. In Duval district, the Cameron Gas Co. has a rig up on the Melinda Meadows farm. J. B. Hanes & Brothers are rigging up on the Anna Hanes farm, in Union district, Tyler County.

In Grant district, Doddridge County, the Murphy Oil Co. has a rig up on the Edward Maxwell farm. In Walton district, Roane County, E. C. Dillard and others are due on the E. A. Humphries farm. In Harper district, Simms & Co. are shut down for orders on the S. M. Curry farm. In Lee district, Calhoun County, Kingsbury & Dollman have a rig up on the L. L. Lynch farm. In Sheridan district, the Chemical Oil Co. has a rig up on the Bennett-Saunders farm. In Murphy district, Ritchie County, Ira Haught and others are fishing on the W. M. Nutter farm. In Sheridan district, Calhoun County, McIntosh & Miller have made a location on the S. B. Minney farm. The Manufacturers Light & Heat Co. has made the location for a test on the L. and J. E. Anderson farm, in Liberty district, Marshall County. In the same district, the same company's No. 3 on the R. A. and J. S. Marple farm is good for 5 bbls. a day in the Gordon sand.

CENTRAL WEST FIELDS

(Continued from Page 68)

and 220 feet from the east line of the C. A. Cooper farm, in the southeast quarter of the northeast quarter of Section 12, Ridge Township, Wyandot County. Top of Trenton was found at 1,391 feet and drilled 23 feet in the sand to a total depth of 1,414 feet where a heavy gas pressure was encountered. The well is reported at 2,000,000 feet, and is something new for that part of the field which is between Findlay and Carey. Back in the nineties this township, as well as other parts of Wyandot County, produced considerable oil, but the wells were of the flashy kind and did not maintain their production like some of the other counties in the Lima Field.

Best in Lima Field

The best oil well for the week in the Lima Field is the Brookside Oil & Gas Co.'s No. 4 on the F. H. W. Kuckerman farm, in the southeast quarter of Section 29, Washington Township, Auglaize County, and 2,000 feet from the north line and 800 feet from the east line of the lease, the first 24-hour production being 20 bbls. Sand was topped at 1,190 feet and drilled 60 feet into the sand. In the same township, Clarence Tester and others' test, 250 feet from the north line and 750 feet from the west line of the F. Weitz farm, mapped as the Charles Weitz farm, in the southwest quarter of Section 2, pumped but 1 bbl. Top of sand at 1,170 feet and drilled 60 feet in the sand.

In Douchouquet Township, Auglaize County, the Vossler Oil Co.'s No. 5 well, 500 feet from the north line and 30 feet from the west line of the C. Vossler farm, in the southwest quarter of Section 16, pumped 5 bbls. from the Trenton at a total depth of 1,310 feet, or 80 feet in the sand.

North of Woodville, in Troy Township, Wood County, Lewis Hille's second well, 1,400 feet from the south line and 200 feet from the west line of his own farm, mapped as the Caleb Root farm, in the southeast quarter of Section 13, struck top of Trenton at 1,287 feet and at 20 feet in the sand showed a production of 10 bbls. on the pump. In Liberty Township, same county, Hulse & Kundtz drilled a dry hole in a second test 650 feet from the north line and 200 feet from the east line of the E. A. Judson farm, in the northeast quarter of Section 3.

Milton J. Beaty has drilled in his fourth well in the northeast corner of the J. and John J. Hufford farm, Section 35, Washington Township, Sandusky County. Top of sand found at 1,324 feet, and at 47 feet in the sand produced 5 bbls. under pump.

Shelby County

The Ohio Oil Co.'s No. 6, in the southwest corner of the Theresa Goffena, mapped as the P. Goffena farm, in the southeast quarter of Section 35, Cynthian Township, Shelby County, struck top of Trenton at 1,232 feet and sent 168 feet in the sand to a total depth of 1,400 feet, the first 24 hours showing 7 bbls. This is among the deepest pays reported of late to be found in the Trenton, in the county, as the pay is usually found nearer the top of the sand.

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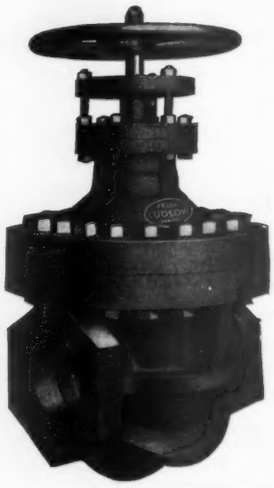

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mer, in Liberty Township, Seneca County. Murphy & Son's test in the southwest corner of the John Harrison farm, mapped as the J. Kimmet farm, in the northwest quarter of Section 21, developed into a dry hole at a total depth of 1,576 feet or 198 feet in the sand, which was topped at 1,378 feet. Last March this firm found a second well in the southwest corner of the Dave Hunker farm, on the map as the H. Tucker farm, in the southwest quarter of the same section, that was reported with an initial of 90 bbls. The Hunker well, coming in as it did with good production, brought about a lot of leasing near Cromer, but little has been done to develop the prospects in that area.

Central Ohio

Few completions are reported from the Central Ohio Field during the past few days as many drilling wells have been shut down on account of high water and storms.

The Kemrow Co. succeeded in getting a dry hole at No. 3 well, 800 feet from the south line and 370 feet from the west line of the Albert C. Fites 87 acres, Lot 21, Killbuck Township, Holmes County, and in Richland Township, same county, same company's test in the northeast corner of the Melvin V. Purdy 110 acres, Section 17, is estimated good for 2,000,000 feet of gas. In Killbuck Township, same county, the East Ohio Gas Co.'s second well in the northwest corner of the C. P. and L. Allison 40 acres, Lot 12, for the first 24 hours is credited with an initial of about 45 bbls.

Three wells have been revived in the Medina County Field, in Montville Township, by J. W. Brady on the Mrs. Belle Graber farm, Lot 48. No. 1 is 600 feet from the south line and 900 feet from the west line of the farm, and pumped 1 bbl. at 425 feet. No. 2 well, 600 feet from the south line and 500 feet from the west line, is also a 1-bbl. pumper at 425 feet, and No. 3 well, 350 feet from the south line and 1,000 feet from the west line of the same farm, pumped 1 bbl. at 426 feet. These wells were formerly owned by the Preston Oil Co. In Chatham Township, same county, the Star Oil Co.'s No. 8 well, 575 feet from the north line and 800 feet from the west line of the S. J. Kent farm, Lot 57, Section 15, was dry at 568 feet. E. R. Edson & Son Co.'s No. 33 well, 635 feet from the north line and 134 feet from the west line of the Carl G. Packard farm, Section 14, Lot 4, was dry at 393 feet . Same company's No. 20 well, 880 feet from the north line and 94 from the east line of the William P. Wertz farm, Lot 5, Section 14, pumped 1 bbl. at 390 feet.

Russell Gets Gasser

Anson H. Russell, Cleveland, Ohio, operator, made a rich gas strike in the Berea sand in the Cambridge Field when he drilled in a test on the William Braniger farm, Monroe Township, northeast of Cambridge, in Guernsey County, that showed an initial volume of 1,890,000 feet, making it one of the largest gas producers from that formation in the Cambridge Field. The lower Niagara lime formation is where development work is more active, but wells like the one found by Mr. Russell in the shallow Berea sand is bound to attract widespread attention. Because of the heavy flow of the well it was capped and no attempt will be made to drill it to the lower Niagara formation. The Braniger well showed a rock pressure of 425 pounds and the production of gas was accurately gauged. There are 240 acres in this farm upon which the well was drilled. It lies adjacent to the Gombert Oil & Gas Co.'s wells in the Berea sand in Monroe Township, near Birmingham.

Under a contract entered into a short time ago between Mr. Russell, who is an experienced oil and gas operator, and the Gombert Oil & Gas Co., the former purchased the Niagara sand mineral rights of 1,650 acres of land under lease to the latter. It was on the Braniger lease that Mr. Russell started to drill his first Cambridge Field Niagara sand well, the work being done by the Cambridge Drilling Co. The plan of testing the Niagara sand in No. 1 on the Braniger lease was abandoned Friday morning when the heavy gas strike was made. A second well will be started within a few days. This well, which got its gas in the lower Berea and after standing open over 24 hours showed an increased volume over 2,000,000 feet. There are some nine wells producing gas from the top Berea sand on this lease, but none of the wells has ever been drilled over 15 feet in the sand. Mr. Russell got a break of 60 feet and then picked up this new sand which is most always called the second Berea sand and is known as a very lasting sand for production. Plans are being made to drill the old wells on the leases to the lower Berea sand. The Ohio Fuel Gas Co. of Columbus, Ohio, is taking the gas from the leases. Mr. Russell has closed a contract with Ferguson & Stewart to drill a deep test well to the Niagara lime found at a depth of about 3,600 feet.

Indiana

After a large number of completed wells for the previous week in Indiana, the present week fell down with but two new wells, both being in Barton Township, Gibson County, in the southwestern part of the state, one being dry and the other a small stripper. Bell Brothers' test, 250 feet from the north line and 1,320 feet from the east line of the C. Wheaton farm, in the northwest quarter of Section 15, proved a duster at a depth of 1,059 feet. The Gem Oil Corp.'s test, in the southwest corner of the S. M. and W. S. Ferris farm, in the southeast quarter of Section 5, same township, hit the top of the sand at 1,330 feet and drilled 13 feet in the sand, where its output amounted to 2 bbls. the first 24 hours.

The Richard Petroleum Co.'s second well on the Stengle & Craig 90 acres, Section 36, Monroe Township, Adams County, that made a nice showing, has not yet been put on the pump due to the bad weather conditions, and its real value as a producer will not be known until it starts putting oil in the tanks. The I. M. O. Oil Co.'s No. 1 on the C. A. Neuenschwander farm, Section 6, is reported in the sand, but yet incomplete. This is also in Wabash Township. Spindler and others' No. 1 Doctor Wilson farm, same township, is also in the sand but not completed yet, while No. 1 Abnett farm, same area, is nearing the sand.

A mile north and the same distance east of Woodburn, in the northwest quarter of the northeast quarter of Section 21, Maumee Township, Allen County, and south of the Gerber farm well, a well is getting close to sand depth and No. 2 on the J. H. Gerber 240 acres, Section 16, same township, is also drilling close to producing depth. These two wells are being drilled by Jess Cochran and Cyrus Shoemaker and between the wells on the William Kammey farm, in the horseshoe bend of Maumee River on the north and the D. Helm well to the southeast.

Illinois

Only two completions are reported from Illinois the past several days, one a duster and the other a fair pumper. The latter is in Wabash Township, Wabash County, and in Joe S. Young, Jr., Phipps & Blosser, in the northeast corner of the Edward Armstrong farm, in the northwest quarter of Section 24, and a few miles south from the Allendale Field. The top of the sand was found at 1,402 feet and the pay at 18 feet in the sand. The well's first 24 hours showed a production of 16 bbls.

In Martin Township, Crawford County, Karns and others' No. 7 well, 200 feet from the north line and 720 feet from the east line of the Ira Renchen farm, in the southwest quarter of Section 26, developed into a duster.

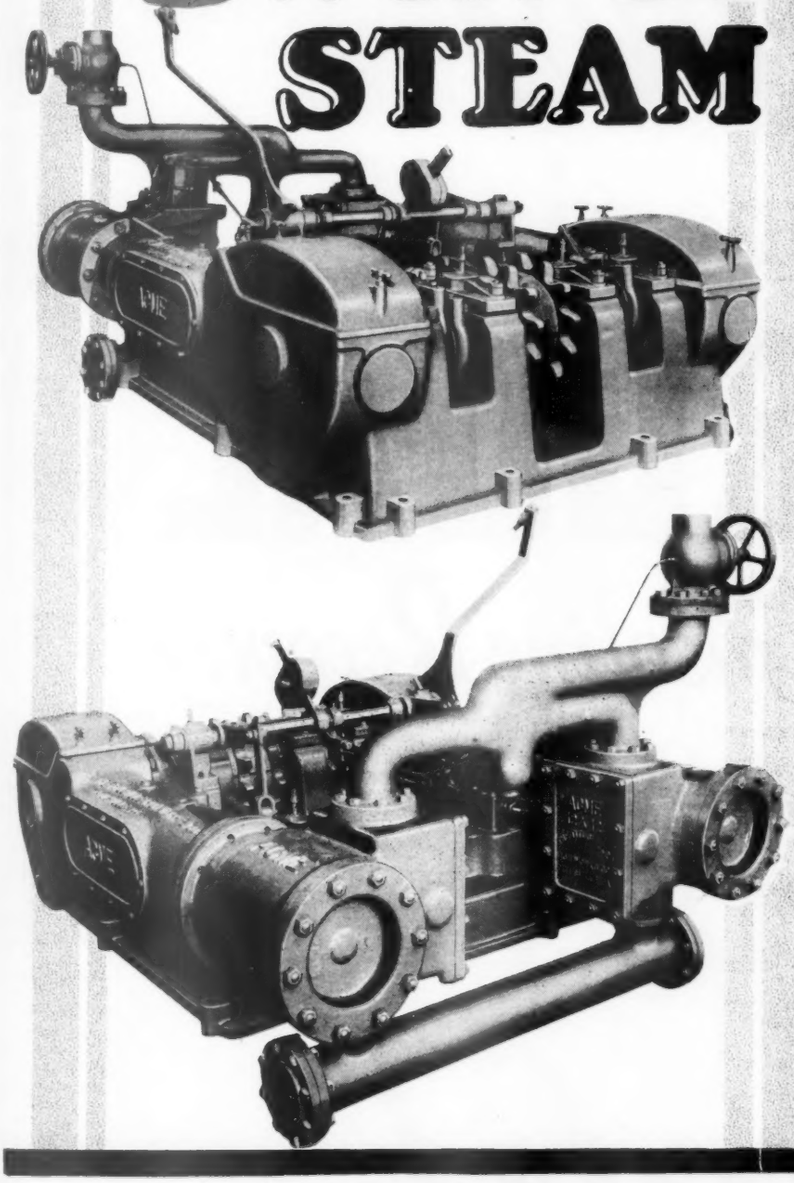
MICHIGAN FIELDS

(Continued from Page 70)

tion, has just completed a fishing job, having lost a bailer in the hole. A string of pipe 1,980 feet long has been landed in the hole at the bottom of the Berea sand, and the test will be drilled to the Saginaw sand, as the Berea sand failed to show anything worthwhile.

A rig is being constructed for P. D. Snavely and others on the W. J. Smith property, in the northwest quarter of

TITUSVILLE TWIN CYLINDER STEAM ENGINES



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Charleston, W. Va.

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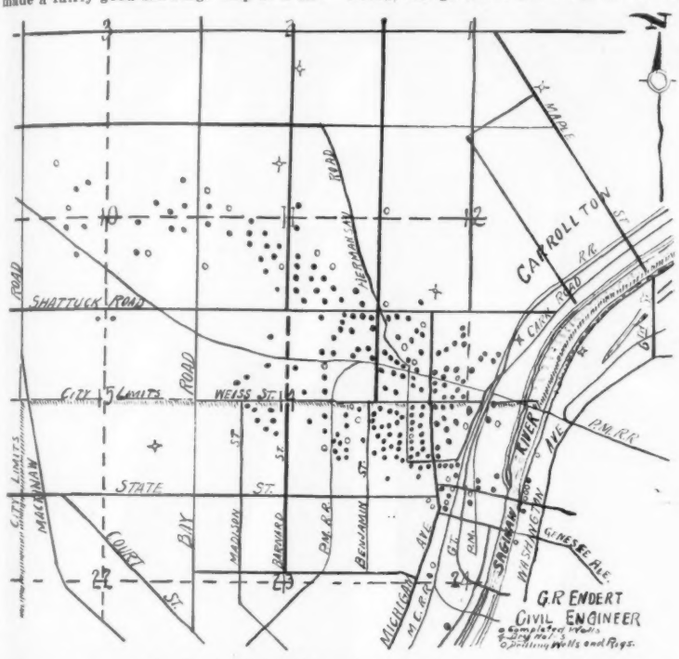
LONG BEACH
Box 321

Section 20, Birch Run Township, Saginaw County, southeast of Saginaw City, and about a mile north of the hamlet of Birch Run.

Sam Lande set a string of 10-inch pipe in his well on the Roy Riser property at Bond and Weiss Streets.

The B. & B. Oil Co.'s Birch Run well, on the Pat Sauve property, northeast of Birch Run, has been tubed and the 8-inch being pulled. The well will then be put on the pump and show its worth from the deep Dundee sand where it made a fairly good showing. Top of Dundee was reached at 2,515 feet and pay found at 2,550 feet and drilled to a total depth of 2,640 feet.



Recent map of the Saginaw Field, which, as the map shows, is largely a town-lot development in the city of Saginaw, Mich. The wells are closely spaced. In Section 11 one lease which appears on the map as less than 40 acres in extent contains 16 wells.

The Thomas Holihan farm well of Charles Hunt in Spaulding Township, Saginaw County, 2½ miles south of Saginaw, has reached a depth of 2,125 feet, about the bottom of the Berea and will be drilled to the Saginaw sand.

R. L. Hill and others are going to the Saginaw sand at a test on the Courtney farm, in Birch Run Township, and it is now near the bottom of the Berea sand, only a slight indication of oil found in the sand.

A test will be drilled on the Atkins farm, near the town of Burt, about 13 miles south of Saginaw, on the Sheridan Road, south and west of Birch Run.

The Superior Oil Co.'s well, on the John King property on the south side of Weiss Street east of Eddy Street, proved dry in the Saginaw sand, which was topped at 2,288½ feet and dry at 24 feet in that sand. It may be drilled to the lower Dundee, or plugged back to the Berea sand where it will make an average producer.

J. & S. Development Co. is starting a well on the Gordon L. Grant property on the southeast corner of Deindorfer and Madison Streets, a short distance southwest of its Sliva well.

Oil operations in the vicinity of Owosso, and Ashley are drawing considerable interest at present and it is reported that the drilling of the Sun Oil Co. in those localities will be supplemented within a short time by other operations. One already has been started, V. M. Vorhees having a well near the Sun Oil Co.'s Ashley operations. The Sun Oil Co.'s second well, about 1½ miles from its gas well, is now well under way, while its Owosso well is down better than 1,000 feet.

Superior Oil Co. is starting a well on the Spatz property, south of Weiss Street and a short distance east of the Pere Marquette belt line tracks.

Strike Gas Flow

The local point of interest in Saginaw oil developments shifted to the northern point of Birch Run Township when the No. 1 Kobs farm well of W. E. Ellis struck a gas pay in the Saginaw sand, the gas igniting and burning down the rig. Oil men were keenly interested in the new show in a section of the county that hitherto has given no sign of either oil or gas. The well was dry in the Berea, though about 4 miles to the southwest, near Blackmar and Birch Run, there has been some show of oil. The well came in suddenly about midnight with a flow of gas that immediately caught fire, the driller jumping to escape the flames which it is estimated shot 20 feet or more above the top of the pipe.

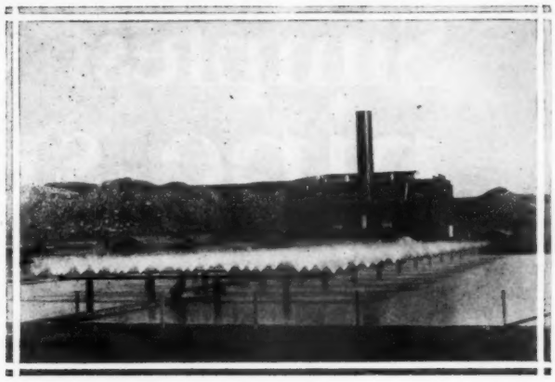
The well got the top of the Saginaw sand at 2,125 feet, the top of the Berea sand being found at 1,672 feet. The well is about 1½ miles south of the town of Frankenmuth, and in Section 3, Birch Run Township. The burning down of the rig left the drilling tools in the hole and stopped further operations for a period. The well was capped and the rig is being repaired, and as soon as completed will be drilled deeper.

JOHN T. PRATT DEAD

NEW YORK, June 25.—John Teele Pratt, internationally known financier, brother of Herbert L. Pratt, president of the Standard Oil Co. of New York, died suddenly yesterday in his private office in the Standard Oil Building, 26 Broadway. His death was attributed to an attack of acute indigestion. He was 54 years old. During the Harding administration, was chairman of the national budget commission. Mr. Pratt was the son of the late Charles Pratt, of the Standard Oil Co., founder of Pratt Institute of Brooklyn. He was a heavy stockholder in the Standard Oil Co. and was a partner or director in many corporations. He began his career as a lawyer.

OIL ON THE CONGO

Negotiations are proceeding at the Belgian Colonial Ministry with the Kilo Moto Gold Mining Co. regarding the oil discoveries made by the company on its concession on the shores of Lake Albert, Belgian Congo.



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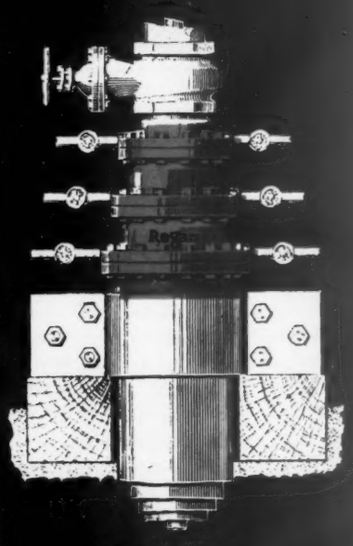
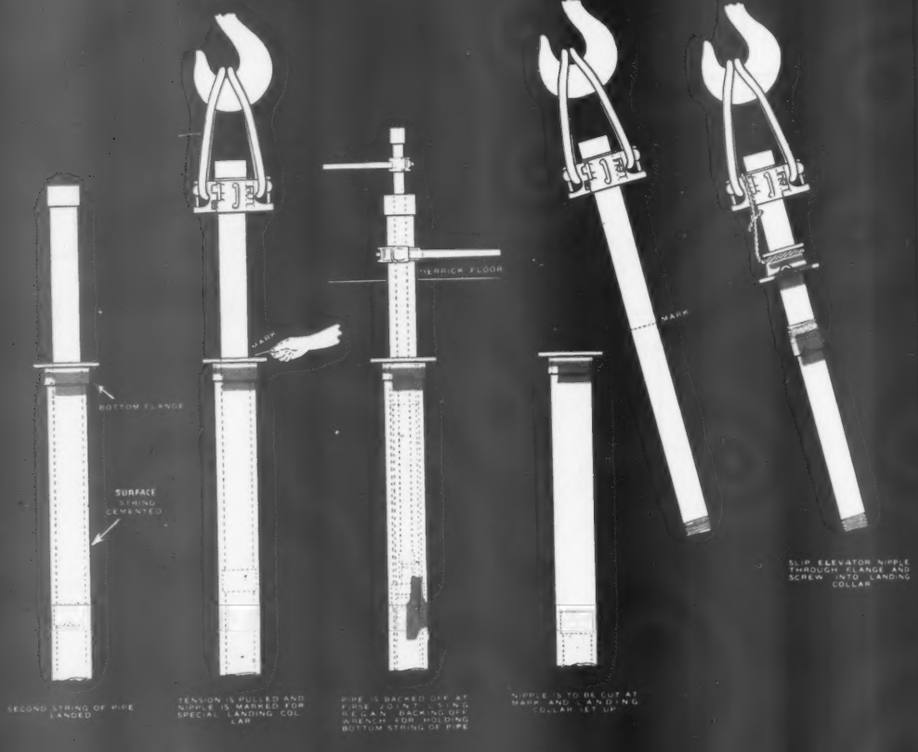
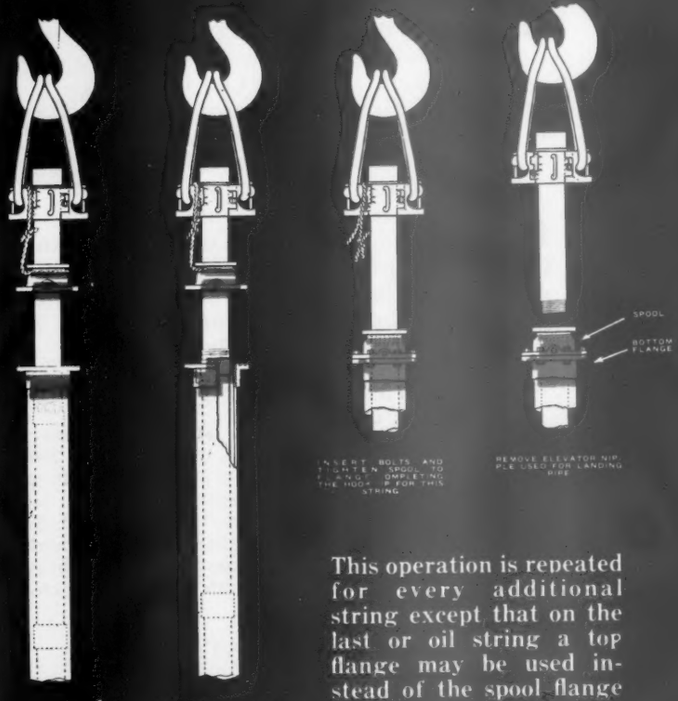


COMPLETE HOOK UP


BOTTOM FLANGE
SURFACE STRING CEMENTED
DERRICK FLOOR
MARK
MARK
SECOND STRING OF PIPE LANDED
TENSION IS PULLED AND NIPPLE IS MARKED FOR SPECIAL LANDING COLLAR
PIPE IS BACKED OFF AT FIRST JOINT USING REGAN BACKING OFF WRENCH FOR HOLDING BOTTOM STRING OF PIPE
NIPPLE IS TO BE CUT AT MARK AND LANDING COLLAR SET UP
SLIP ELEVATOR NIPPLE THROUGH FLANGE AND SCREW INTO LANDING COLLAR


SCREW NIPPLE INTO UPPER COLLAR ON STRING OF PIPE
AGAIN PULL TENSION UNTIL LANDING COLLAR O. D. THREAD IS ABOVE FACE OF BOTTOM FLANGE, THEN LOWER SPOOL AND SCREW ONTO LANDING COLLAR AND SET UP TIGHT THEN LOWER AND SET ON BOTTOM FLANGE
INSERT BOLTS AND TIGHTEN SPOOL TO FLANGE COMPLETING THE HOOK UP FOR THIS STRING
REMOVE ELEVATOR NIPPLE USED FOR LANDING PIPE
SPOOL
BOTTOM FLANGE

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Wm. Adams
Care American Consul

CANADIAN FIELDS

(Continued from Page 61)

man; with F. M. Compton, company director, and O. G. Devenish in charge. Production was got approximately 1,500 feet deeper than in the Kevin-Sunburst Field, but in the same geological horizon.

It seems probable that the strike will be followed by extensive development in the Devenish area. Devenish Petroleums, Ltd., and allied interests have extensive acreage tied up, having added considerably to their holdings since the strike, and there has been considerable leasing by other interests. Filing for this area is done at the Lethbridge land office; the hamlet of Skiff and the city of Lethbridge being the potential boom towns if the field develops. Most of the companies contemplating development seem to be negotiating for some of the Devenish acreage. Illinois-Alberta Oil & Refining Co. of Calgary, which has one well producing and one well drilling in the Turner Valley Field, has secured a quarter section from Devenish Petroleums, Ltd., but it is announced that no immediate drilling is contemplated. It is reported that the Hudson's Bay-Marland Oil Co. is looking over the situation with a view to drilling. There is considerable Hudson's Bay Co. acreage. Imperial Oil, Ltd., has no acreage in the immediate vicinity of the producer, and announced some weeks ago its intention to discontinue work in the plains area and concentrate on the foothills.

Turner Valley Field

In the Turner Valley Field, Home Oil Co. No. 1, LSD 10, Section 20-19-2w5, which blew itself in at 4,560 feet, is apparently developing both light crude oil and naphtha-bearing wet gas. The well is stated to be making approximately 100 bbls. a day, made up of approximately 40 bbls. of 42-degree crude oil and 60 bbls. of crude naphtha extracted from the gas. It has a daily production of 6,250,000 feet of wet gas. The production comes from a new horizon overlying the Madison limestone. The following statement has been issued by Maj. J. H. Lowery, managing director of the Home Oil Co.:

"The well was brought in Thursday, June 9; the gas was dry for six hours, and later the well blew quartzite rock over the top of the derrick. The gas began getting wet. The gasoline content increased steadily until Sunday, when it tested .364 gallons per 1,000 feet of gas, compared with .22 on Saturday. After the well had been flowing for 10 hours, the gas production settled down to a steady output of 6,250,000 feet per day by measurement.

Saturday morning the well started to spray crude oil. We improvised traps to recover this and we have been recovering at the rate of 1½ bbls. of crude per hour ever since. Wednesday we cemented the cellar and put the anchor bolts on to harness the top of the casing with a rigring head and control valves. We expect the cement will be ready to put on the control head on Monday. Before doing this we will lower the 8¼-inch string down about 6 feet to the point where we finished underreaming. With a control head we can put on pressure to insure efficient extraction of the naphtha.

"The gas comes out at a temperature of 40 degrees Fahrenheit, as contrasted to 25 degrees below zero in such wells as Royalite No. 4, and contains only 5 grains of sulphur per 1,000 feet, which is a fraction less than the scrubbed gas coming through the pipe line to Calgary. The crude, which is of a paraffin base, was apparently increasing in gravity yesterday. It tests over 42 degrees and may make 50. The volume of the crude output was also on the increase yesterday.

"We have ordered a stair drip, which will take a week to build. Whatever other equipment is found necessary, which may include both an absorption plant to recover the crude and a separator to recover the naphtha, will be ordered. With four 20-bbl. tanks, which arrived from Shelby by truck yesterday, we have 1,500 bbls. of storage on the location."

Home No. 1 will be finished at this depth. It has a string of 8¼-inch casing down to production. The producing horizon is a quartzite sand at the bottom of the Fernie shales and just above the calcareous. Home No. 2, LSD 14, Section 20-19-2w5, will be deepened to the same producing horizon. This well, originally the Advance Oil Co. No. 2, is reported to be in the Dakota sandstone at 2,095 feet, is fully rigged and practically ready to resume operations.

Dalhousie Well Burned

Dalhousie Oil Co. 6, LSD 10, Section 13-20-3w5, when drilling at 3,715 feet caught fire, destroying the derrick, boiler house and entire plant. The fire brigade from the Royalite plant was rushed to the scene as soon as the fire was reported, but efforts to save the plant were unsuccessful. The plant will be rebuilt at once. Dalhousie No. 6 reported a fair show of light oil at 3,490 feet, but was being drilled deeper to test the Madison limestone. Dalhousie No. 1, LSD 4, Section 18-20-2w5, has resumed drilling with the big diamond drill outfit at 3,680 feet. Dalhousie No. 5, LSD 16, Section 30-19-2w5, is cementing through a bad caving at 4,365 feet.

British Dominion Oil Corp., LSD 4, Section 5-20-2w5, is drilling at 5,860 feet. This is now the deepest well in Canada, having passed the record depth previously established by the Imperial Oil-Rice Creek test, which was discontinued at 5,747 feet.

Vulcan Oils No. 2, LSD 11, Section 13-20-3w5, is at 1,275 feet and drilling. Vulcan No. 1, same LSD, is making 100 bbls. a day crude naphtha. Spooner Oils No. 1, LSD 12, Section 13-20-3w5, has cased off all the crude encountered in the Dakotas, and is drilling in the lower Kootenays at 3,775 feet. Calmont Oils, LSD 2, Section 1-20-3w5, after straightening 60 feet of hole, has passed the level of the bottom of the old hole and is drilling at 3,770 feet in a hard gritty formation, similar to that at 3,735 feet in which showings of light crude were encountered. Stockmen Oils No. 1, LSD 1-2, Section 27-30-3w5, is at 4,475 feet and drilling for the 8¼-inch casing with about 500 feet of open hole.

McLeod Oil Co. held its annual meeting at Calgary recently, the election of directors being eventually adjourned for two weeks. President R. J. Hutchings reported that McLeod No. 2, LSD 16, Section 1-20-3w5, at a depth of 4,363 feet or 728 feet in the Madison limestone, was producing 50 bbls. a day of casinghead gasoline from approximately 4,000,000 feet of wet gas. The company received $3.95 net per barrel for the production. McLeod No. 1 produced approximately 9 bbls. per day of light crude for which $3 per barrel was received. McLeod No. 3 was drilling around 2,200 feet and production was anticipated in the Dakotas between 2,800 and 3,000 feet. McLeod No. 2 at one time had an estimated flow of 17,500,000 feet a day which was mudded off under pressure of 2,560 pounds in the hope that deeper drilling would develop a larger production.

The development account showed expenditure to the end of 1926 of $30,983.83 on No. 1 well, $49,562.66 on No. 2 and $994.44 on No. 3. Other expenses for management, etc., together with commission on sale of shares brought the total expenditure to $121,262.20. Receipts for sale of oil from No. 1 well to December 31, 1925, totaled $13,652.04, and in 1926 receipts from No. 1 well were $7,917.58 and from No. 2, $2,542.29. Freight and haulage cost $2,081.42 and royalties paid were $2,493.44. Other receipts included $39,968 premiums on the sale of shares, $165.38 interest and $2,954.66 transfer fees. Of the $250,000 capital stock authorized, some $191,040 has been issued. Plant equipment for No. 1 well is placed at $29,843.65, for No. 2 well at $66,555.53 and for No. 3 well at $5,949.54, as of December 31, 1926. Leases and surface rights are valued at $28,117.82.

Drilling Operations

Royalite Oil Co. No. 7, LSD 3, Section 13-20-3w5, is reported drilling at 3,340 feet. New McDougall-Segur No. 2, LSD 14, Section 12-20-3w5, after shutting off the surface water at 120 feet is reported drilling at 600 feet. New Black Diamond, LSD 1, Section 3-20-3w5, will start hauling casing as soon as the roads are fit, preparatory to resuming drilling at 1,380 feet after the winter shut down. Regent Oil Co., LSD 16, Section 1-20-3w5, is resuming at 2,147 feet after running 12½-inch casing. Oklta Oils No. 1, LSD 1, Section 1-20-3w5, is drilling at 2,450 feet with casing nearly to the bottom of the hole.

Foothills Oil & Gas Co., the newly organized development subsidiary of Imperial Oil, Ltd., has taken over Imperial-Millarville No. 1, located some time ago in the north end of Turner Valley on Hudson's Bay Co. land in SW Section 26-20-3w5. The outfit is practically rigged up and the test, to be known as Foothills No. 1, will likely spud in about June 30. No. 2 well has not yet been located, but will start drilling probably in July.

Justice Walsh has given his decision in the actions of John Creighton vs. United Oils, Ltd., and Frank Starley vs. New McDougall-Segur Oil Co., involving the validity of certain leases in the Turner Valley Field. The plaintiffs claimed that the Dominion Government had no right to grant oil and natural gas leases on land homesteaded previous to 1908 on the grounds that the reservation of oil and gas rights was based on an order in council which they claimed was ultra vires. They further claimed that petroleum and natural gas were not included in the term "mines and minerals." Justice Walsh decided in favor of the defendants in both cases, upholding the validity of the leases and of the reservations under which they were made.

Moose Mountain

In the Moose Mountain district, Signal Hill Oil Co. No. 2, LSD 9, Section 34-23-5w5, has resumed drilling at 1,158 feet after putting in a new cable.

On the Morley Reserve, Gold Coin Oils is drilling in a very hard formation at 2,729 feet with a small flow of wet gas.

In the Jumping Pound district, 25 miles west of Calgary, Imperial Oil, Ltd., Bow River No. 1, LSD 15, Section 12-25-5w5, is at 5,585 feet and drilling. South of the Turner Valley Field, in the Highwood district, Imperial-Highwood No. 1, LSD 3, Section 36-18-3w5, has cemented casing at 2,377 feet.

In the Altario district, Rosebud Syndicate, LSD 5, Section 15-33-2w4, is reported drilling at 450 feet.

In the Irma-Wainwright Field, east central Alberta, National Exploration Co., LSD 1, Section 30-45-6w4, is reported drilling at 1,500 feet. Plateau Oil Co. is reported to be contracting with the A. B. & G. Drilling Co. of Wainwright for a test, location for which has not yet been spotted. Interior Oil Co., Section 36-44-7w4, which has been shut down for several months at 1,925 feet, is getting in shape to resume drilling. British Wainwright No. 1, LSD 4, Section 22-45-6w4, is drilling below 1,000 feet. Mid-Canada Oils, Section 35-45-6w4, has derrick timbers on location. Wainwright Dome No. 2, LSD 5, Section 18-44-6w4, is reported rigging up.

Ribstone Field

In the Ribstone Field, Ribstone Oils, LSD 1, Section 1-46-1w4, is at 1,485 feet and drilling; several large pockets of gas have been met but the main gas flow encountered in Imperial-Ribstone No. 1 at this horizon has not been reached. London-Ribstone Oils, LSD 14, Section 10-43-3w4, is reported rigging up for a rotary test in charge of Dave Credille.

In the Foremost gas field, Canadian Western Natural Gas Co. No. 8, LSD 12, Section 5-6-10w4, has cemented the 8¼-inch casing at 945 feet and is resuming drilling.

In the Warner-Milk River district, the Gas Production & Transportation Co., a subsidiary of International Utilities, has located a test in NE Section 21-4-18w4, approximately 7 miles west and 2 miles north of Warner. This is on acreage blanketed some time ago by the Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary and on which tentative arrangements had been made with the Union Oil Co. of California for drilling this season. C. J. Yorath, president of International Utilities, states:

"This well will be on the structure located by our geologist, S. E. Slipper, last year with the assistance of a core drill. The axis of this structure is a continuation of the main axis of the Sweetgrass structure upon which the Montana oil field is located. Work will be commenced immediately. We believe that this structure has potential possibilities for gas. In accordance with the policy of the company, systematic geological surveys have been made and will be made to establish gas reserves adjacent to our transmission lines so that we will be prepared at all times to meet any shortage which might arise in any other field. This structure has also possibilities for oil, particularly having regard to the recent discoveries in the Devenish well, which is located on the east slope of the main structure." The well will be known as Gas Production No. 1, Warner Field.

In the Pincher Creek district, Mount Royal Oil Co. No. 1, LSD 4, Section 7-6-1w5, has spudded in and is reported drilling at 250 feet. Two additional wells will probably be put down, No. 2 having been located in Section 15-6-1w5. The Western Drilling Co. is handling the work.

In the Taber district, a test for artesian water on the Albert Green farm 3½ miles southeast of Taber got a fair flow of gas below 700 feet.

In the Medicine Hat Field, Roth Syndicate No. 2 deep test, Section 8-13-6w4, is being abandoned at 3,150 feet.

In the Milk River district, the Shank Lake Oils, Ltd., is reported preparing for a test on a structure located in Townships 1 and 2, Ranges 21 and 22, w4. The company holds approximately 5,000 acres of leases. In the same area the Milk River Syndicate has filed on 2,200 acres in Townships 1 and 2, Ranges 21 and 22w4. Officers of the Shank Lake Oils are: President, F. J. Marshall; vice president, G. Elliott; secretary-treasurer, W. S. Davidson; directors, R. S. Heddle, S. J. Shepherd, C. E. Snyder, Fritz Schick.

On Montana Side

On the Montana side, the Hart Green-Lerum No. 1 close to the border is being abandoned. A second test will probably be drilled by the Hart Green Syndicate. In central Montana, the Montana-Major well has cemented its 10½-inch casing at 1,260 feet. Two water sands, the first at 1,025 feet and the second at 1,190 to 1,195 feet, have been shut off. Between the two a trifle of gas was found at 1,150 feet. Deloraine Oil Co. of Deloraine, Manitoba, which has several producers in the Montana Field is planning to drill additional wells.

In British Columbia, S. C., Ferdig of Montana is moving a rig into the North Fork area, north of Glacier Park, and will drill a test for oil.

In Kent County, Ontario, Union Natural Gas Co. No. 268, George Jackson farm, near Port Alma, Romney Township, is reported drilling around 800 feet. No. 269, George Jackson farm, has started drilling. In Dawn Township, Lambton County, Union Natural Gas Co. No. 15 is reported finishing as a small gasser in the Dawn sand.

CALIFORNIA FIELDS

(Continued from Page 64)

ticipated shortly. The Miley Oil Co.'s deep test is drilling ahead in a hard gray sand at 4,135 feet with no showings of importance logged since passing through the upper sand.

Southern California Wildcats

Prospecting work in southern California is decidedly unfavorable; none of the wildcats now under way look even a little promising. The outlook may change at any time but, judging by the present status of the few favorably-located holes, nothing of importance is expected within 30 days at least. The situation at Potrero is still unchanged but the Associated may re-enter No. 1 Cypress for a production test at any time. The Shell's No. 1 Mission in the San Fernando Valley, rather favorably located, is reaming at 2,316 feet. The Shell's other southern California wildcat, No. 1 Alec, near Placentia, is just getting under way at 1,804 feet. George F. Getty's No. 1 Tubbs, near Rivera, is rapidly approaching the depth at which production is anticipated and during the next 30 days will be watched very closely. Cady &

Fiscus contemplate the drilling of a wildcat near Orange but those familiar with this section are rather skeptical as to the possibility of developing production.

Northern California Wildcats

The Bolsa Chica Oil Co. resumed work on its Kettleman Hills wildcat early this week and a determined effort will be made to effect a satisfactory water shutoff and produce from the sand found by the General Petroleum Co. near by. The Bolsa Chica interests acquired another 1,500 acres at Kettleman Hills a short time ago, the latest acquisition being near the General Petroleum's Oschener holdings. The Pacific Eastern Production Co. resumed drilling on its Bakersfield wildcat following the failure to develop production at 4,000 feet. The Milham Exploration Co. cored a rather promising looking gas sand at Buttonwillow and a test for commercial gas production is scheduled to be made shortly. The Chanslor-Canfield Midway Oil Co. has temporarily suspended operations at Delano but drilling will probably be resumed soon. The Miocene Oil Co. is erecting a rig in Section 34-27-28, Kern County, and an attempt will be made to develop shallow production, although deeper drilling will be engaged in if conditions warrant.

LA.-ARK. WILDCATS

(Continued from Page 56)

abandon No. 1 Jacobs, Section 26-20-13 at a depth of 3,395 feet. Sligo Syndicate's No. 1 Jeter, Section 23-17-12, is drilling in hard lime at 3,800 feet. Palmer Corp.'s No. 4 Bossier, Section 9-16-11, is down 4,330 feet.

Claiborne Parish

Magnolia Petroleum Co.'s No. 1 Lee, Section 16-22-8, is being reamed to the bottom at 3,695 feet. Rudeseale and associates are rigging up for No. 1 Meadows, Section 20-21-7. Tate and associates cored hard gray sand from 2,816 to 2,820 feet in No. 1 Maddox, Section 21-23-7.

DeSoto Parish

Hoosier Oil Co. is down 900 feet in No. 1 Berry, Section 5-11-11. The 10-inch plug was drilled out at 145 feet. Magnolia Petroleum Co. is reaming in No. 1 Logan, Section 17-10-12, to set 6⅝-inch casing at 3,150 feet. Total depth of the hole is 3,173 feet. Reliance Drilling Co.'s No. 1 Jones, Section 8-11-14, is in hard lime at 2,653 feet. Seip and associates' No. 1 Roberson, Section 18-10-12, has been shut down at 2,605 feet. The Texas Company is setting the liner to test No. C-12 Sample, Section 26-13-12. This test is down 2,435 feet. This company's No. A-6 Wemple, Section 2-12-12, is drilling lime and shale at 2,344 feet.

Franklin Parish

Barbour Oil Co. is drilling at 2,627 feet in No. 1 Baker, Section 3-15-7e. Hall & Harrell's No. 1 Duncan, Section 20-13-7e, has been shut down following a salt water test at 2,084 feet.

Grant Parish

Paulette and associates have cemented 6-inch casing at 1,585 feet in No. 2 Holmes, Section 17-9-1e. Total depth is 1,591 feet. Rue and associates are coring at 2,036 feet in No. 1 Elias & Williams, Section 10-7-4w. Swope and associates have started operations in No. 3 fee, Section 18-9-1e, and have set 10-inch surface casing at 100 feet. No. 4 fee, same section, is being rigged up. Tunica Petroleum Co. is drilling at 2,035 feet in No. 11 O'Bannon, Section 38-7-1e.

Natchitoches Parish

Ohio Oil Co. is down 208 feet in No. 2 L. & A., Section 26-13-6w, where it has 10-inch surface casing set.

LaSalle Parish

Tunica Petroleum Co. has drilled out the 6-inch plug cemented at 764 feet in No. 33 L. & A., Section 9-7-2e, and tested salt water with but little oil at 774 feet. A derrick has been started for No. 34 L. & A., Section 8, and a rig is up for No. 35 L. & A., Section 9. This company also is arranging to test a sand at 754 feet in No. 1 Lacroix, Section 8. This test is showing some gas. The 6-inch casing is cemented at 744 feet. Tunica Petroleum Co.'s No. 1 Whately, Section 9, is waiting orders at 830 feet where it has 600 feet of fluid standing in the hole.

Rapides Parish

Minnesota Oil Corp. is arranging to deepen No. 1 Wettermack, Section 7-5-3w. This test showed salt water at 2,996 feet. George Sabatier and associates are drilling at 2,703 feet in No. 1 Ritchie, Section 38-5-4w.

Red River Parish

Alden Oil Co.'s No. 1 Powell, Section 13-11-10, has been shut down at 2,730 feet waiting for fuel. Hazlett & Simmons are drilling at 1,020 feet in No. 1 Neeley, Section 1-14-12.

Richland Parish

Gulf Refining Co. is preparing to lubricate and resume drilling in No. 2 Rhymes, Section 5-16-6e. This test has been shut down at a depth at 2,880 feet. Preparations also are being made to resume drilling in No. 2 Seibert, Section 11-16-5e, which is down 2,303 feet. Ruston Drilling Co. has completed No. 1 Earle, Section 5-16-6e. It gauged 37,000,000 feet of gas from sand at 2,445 feet.

Sabine Parish

Arkansas Fuel Oil Co.'s No. 1 Horn, Section 33-10-12, Pleasant Hill, is drilling in sandy shale at 2,360 feet. No. 6 Logan, same section, is shut down waiting on a standard rig to pump. It is at 3,115 feet. In No. 8 Logan arrangements are being made to test the top of a broken sand at 3,175 feet. Arrangements also are being made to test a sand at 3,230 feet in No. 9 Logan. No. 10 Logan is drilling chalk at 1,990 feet. No. 1 Williams tested dry in sand at 3,130-35 feet. Magnolia Petroleum Co.'s No. 1 Hall in this section is drilling lime at 2,995 feet.

In Section 32, Arkansas Fuel Oil Co. is building a standard rig at No. 1 Moore to fish for the swab lost in the hole at 3,278 feet. This test had been swabbing at the rate of 47 bbls. daily. No. 1 Rembert, Section 5-9-12, has been completed flowing 20 bbls. daily through 2-inch tubing. Depth of this well is 3,312 feet. Foster and associates have a rig up for No. 1 Nabors, Section 30-10-12, while Frazier and associates have started a derrick for No. 1 Harris, Section 29-10-12. Longoria and associates have a derrick for No. 1 Burkett, Section 9-9-13. Magnolia Petroleum Co.'s No. 1 Rembert, Section 32-10-12, is drilling in shale at 1,080 feet. This company's No. 2 Louisiana L. L. Co., Section 2-6-11, is down 1,448 feet. Morgan and associates' No. 1 Reese, Section 5-9-12, is drilling at 2,000 feet. Robinson and associates' No. 1 Hamlin, Section 6-9-13, is drilling shale at 3,020 feet. H. P. Tate has a derrick up for No. 1 Cook, Section 23-10-11. L. M. Emlet is drilling in shale and boulders at 1,557 feet in No. 7 Bowman, Section 14-7-14. No. 8, Section 16-7-12, has been shut down waiting orders at 579 feet. He has a rig up for No. 1 Mansfield, Section 15-7-14.

Webster Parish

W. T. Hunt's No. 1 Bistenau, Section 35-18-10, is drilling at 922 feet. Red beds were topped at 915 feet.

West Carroll Parish

Palmer Corp. has a location for No. 1 Pioneer, Section 16-20-10e.

Winn Parish

Dodge & Cordell are drilling at 1,310 feet in No. 1 Tremont, Section 35-13-3w. Humble Oil & Refining Co. has abandoned as dry at 1,505 feet No. A-23 L. & A., Section 3-10-2w. Ohio Oil Co.'s No. 1 McCarty, Section 5-12-1w, is drilling black lime at 2,635 feet. This test formerly was reported as abandoned. H. M. Roark is down 310 feet in No. 2 Southern Minerals Co., Section 19-11-3w.

ARKANSAS

Union County

Allison and associates are drilling sandy shale at 2,680 feet in No. 1 Howard, Section 8-19-13. W. R. Keever is rigging up to deepen No. 2 Ezell, Section 12-17-15. This test formerly was reported abandoned as H. I. Morgan's No. 2 Polk & Ezell, at a depth of 2,880 feet. Ohio Oil Co.'s No. 1 Crain, Section 1-17-14, has been placed on the pump gauging 60 bbls. of oil daily from a sand at 3,014 feet. A rig is up in this section for No. 1 Pumphrey. W. D. Wingfield is down past 50 feet in No. 1 Hadley, Section 2-18-13.

Ouachita County

Magnolia Petroleum Co. is drilling at 1,873 feet in No. B-1 Stout Lumber Co., Section 28-14-16. In this test the Nacatoch sand was dry at 1,780 feet.

Ashley County

Glassell and associates have a location for a test in Section 10-19-5.

Calhoun County

Arkansas Natural Gas Co. is drilling sandy shale at 2,415 feet in No. 1 Stout, Section 2-13-14.

Columbia County

Atlantic Oil Producing Co. is drilling gumbo at 3,100 feet in No. 1 Couch, Section 23-17-20. Golquitt & Thomas' No. 1 Duffer, Section 23-18-19, is in lime at 2,835 feet. Lion Oil & Refining Co.'s No. 1 Pattee, Section 20-18-18, is drilling hard chalk, Section 2,722 feet. Mitchell & Eylers' No. 2 Bodcau, Section 4-20-21, has been abandoned temporarily with the hole at a depth of 2,804 feet.

Grant County

Jones & Watkins are down 1,010 feet in No. 1 Meek, Section 5-4-11.

Lincoln County

Pine Prairie Oil & Gas Co. is drilling at 1,525 feet in No. 1 Carter, Section 33-10-6.

SOUTHWEST WILDCATS

(Continued from Page 57)

Dixie Oil-Southern Crude's No. 1 Gray, Survey 136, located 330 feet to NE cor., is drilling at 2,830 feet.

Hidalgo County

Queen City Oil & Gas Co.'s No. 1 Adams, Lot 1, Block 83, Capisallo district, is drilling at 1,454 feet in blue shale.

Jim Hogg County

Holden and others' No. 3 Jones, Share 27, Block 136, located 330 feet to east line and 440 feet to north line, is standing at 1,471 feet. Hamilton and others' No. 1 Holbien, Block 44, located 158 feet to south line and 363 feet to west line, is drilling at 2,160 feet.

Starr County

Commonwealth Oil Co.'s No. 1 Garcia, Survey 538, located 2,722 feet to south line and 2,102 feet to west line, is drilling at 1,450 feet. Southern Exploration's No. 2 Russell, Share 173-B, Porcion 69, located 150 feet to north line and 950 feet to west line, is waiting on orders. Milham Corp.'s No. 2 Salinas, Porcion 111, SE cor., is at 4,252 feet with drill stem stuck.

Webb County

B. L. Kay's No. 1 N. H. Brown, 22 miles southwest of Catarina, is ready to spud in. Rio Grande Oil Co.'s No. 1 Urbahn, Santo Tomas tract, 10,000 feet to south line and 20,000 feet to east line, has reached total depth of 1,600 feet in the old hole. O. W. Killam's No. 1 Billings, SE NW, Survey 43, located 150 feet to south line and 750 feet to west line, at 3,915-25 feet, cored sand and shell; No. 2 Billings is location on east side of road on Survey 712. Tubbs & Wright's No. 1 Reiser, Survey 1,617, Block 14, is drilling at 100 feet. W. O. Wheatley's No. 3 Kruger, Survey 1,570, Block 4, located 640 feet to north line and 421 feet to east line, is location.

Zapata County

H. H. Galbraith's No. 1 M. A. Hirsch, Survey 595, is location, in NE cor. Buffalo-Erie's No. 1 Burtrand, Survey 627, is location 3,239 feet to northeast lines and 500 feet to northwest lines. E. K. Bateman's No. 2 Vela, Block 4, located 675 feet to northwest lines and 417 feet to northeast lines, is drilling at 950 feet with sand at 835-52 feet. Roxana Petroleum Corp.'s No. 1 E. Lopez, Survey 288, located 150 feet to northwest and northeast lines, set casing at 960 feet to test sand at 974-1,007 feet. J. H. Winch's No. 2 Bustamante, Block 2, Share 11, Fansler Partition Comitas grant, is location 2,400 feet of No. 1.

Bexar County

W. L. McClanhan's No. 5 Sodrok, Adkins Field, 300 feet east of No. 4, is drilling. Allen Burnam's No. 1 Ward, southwest of Martinez, 600 feet to north line and 2,400 feet to west line of R. A. Ward's 164-acre tract, is ready to spud in. A. R. Beall, trustee's No. 1-A Ackerman, Survey 133½, is drilling in gumbo at 664 feet.

Bee County

Red Ant Oil Co.'s No. 1 Perry & Chesnut, 7 miles west of Pettus, has material on ground for derrick. W. S. Poole's No. 1 Wood is location, 5 miles southeast of Beeville. D. Hewitt's No. 1 G. A. Ray is drilling, location 1½ miles west of Pettus. Nichols & White's No. 1 Hicks, Hicks-Ball Survey, Block 19, NW cor., is shut down at 1,406 feet.

Caldwell County

Sutton & Smith's No. 2 Carter, Green Hindes Survey, 300 feet east of No. 1, is location; No. 2 J. L. New, James Hindes Survey, 150 feet to west line and 600 feet to south line, expected to spud in, within a few days; No. 2 Carter, G. Hindes Survey, 150 feet CNL, is swabbing at 2,597 feet every other day and getting water and little oil. Kuhn & Armstrong's No. 1 Thomas is swabbing a little oil; Calco Petroleum Co. (Kuhn & Armstrong) No. 2 Thomas, 600 feet from No. 1, is drilling at 200 feet. Deter Oil Co.'s No. 1 Hardeman, 4 miles north of Luling, at 2,987 feet is claimed in base of Edwards showing oil, with Edwards topped at 2,717 feet, upper part hard and compact. Joe Bruner's No. 1 W. F. Davis, at 2,557 feet, has been pumping for a week and making about 12 bbls. daily of 35 gravity oil, with Eagleford barely topped, and is producing from the Austin chalk; may deepen a little into the Eagleford, and arrangements are being made for another well.

DeWitt County

Collette Oil Co.'s No. 1 Boldt, James Lasater Survey, 3,129 feet to east line and 800 feet to south line, is ready to spud in, but has been delayed by work on titles. G. O. Williams and O. L. Gates' No. 1 Oscar Gohmert, G. W. Brooks League, 175 feet to north line and 300 feet to east line, at 100 feet, is waiting for drill stem. Empire Southern Oil Co.'s No. 2 Smith, Survey 3, located three-quarters of a mile west of No. 1, is drilling at 1,650 feet in hard rock. McNeil & Matthews' No. 1 Kaiser, A. Dillard Survey, 1,508 feet to NW cor., is shut down at 2,600 feet.

Dimmitt County

Humble Oil & Refining Co.'s No. 1 City National Bank, Survey 654, located 700 feet to north line and 2,000 feet to east line, is drilling at 2,780 feet.

Frio County

P. A. Neilan's No. 2 Blackaller, James Gouley Survey, is skidding derrick over from No. 1, which was abandoned at 3,005 feet with fishing job.

Fayette County

Magnolia Petroleum Co.'s No. 1 Fordtran, J. R. Jones Survey, 200 feet to north line and 1,050 feet to west line, northwest of LaGrange, is ready to spud in. LaFayette Oil Co.'s No. 1 Marquardt, J. R. Phillips Survey, 976 feet to northwest lines and 400 feet to southwest lines, is drilling.

Gonzales County

L. P. Unkel's No. 1 Johnston, C. H. Jaeger, SE cor., 100 miles northwest of Gonzales, at 214 feet, has been completed pumping 1 bbl. Other wells will be drilled. Gonzales Petroleum Co.'s No. 2 Elder, F. R. Whitney Survey, Block 11, southwest of No. 1, is drilling at 1,200 feet. Bristol Oil & Gas Co's No. 2 Denman, A. Zumwalt Survey, is shut down at 807 feet. Martin Oil & Development Co.'s No. 1 Preston, near Cheapside, is testing at 1,570 feet.

Guadalupe County

H. H. Temple's No. 1 McAllister, Edward Kellett Survey, 450 feet to northeast lines and 1,420 to northwest lines, got hard chalk at 1,757 feet and is now drilling at 1,792 fet. F. A. Lain's No. 1 Weinert, W. K. Estell Survey, 150 feet to CNL, at 3,002 feet has finished contract depth and may deepen.

Kinney County

W. A. Stephens and others' No. 1 Jim Clamp, Survey 346, located 5,362 feet to west line and 5,674 feet to south line, is drilling at 1,000 feet. Havelin Oil

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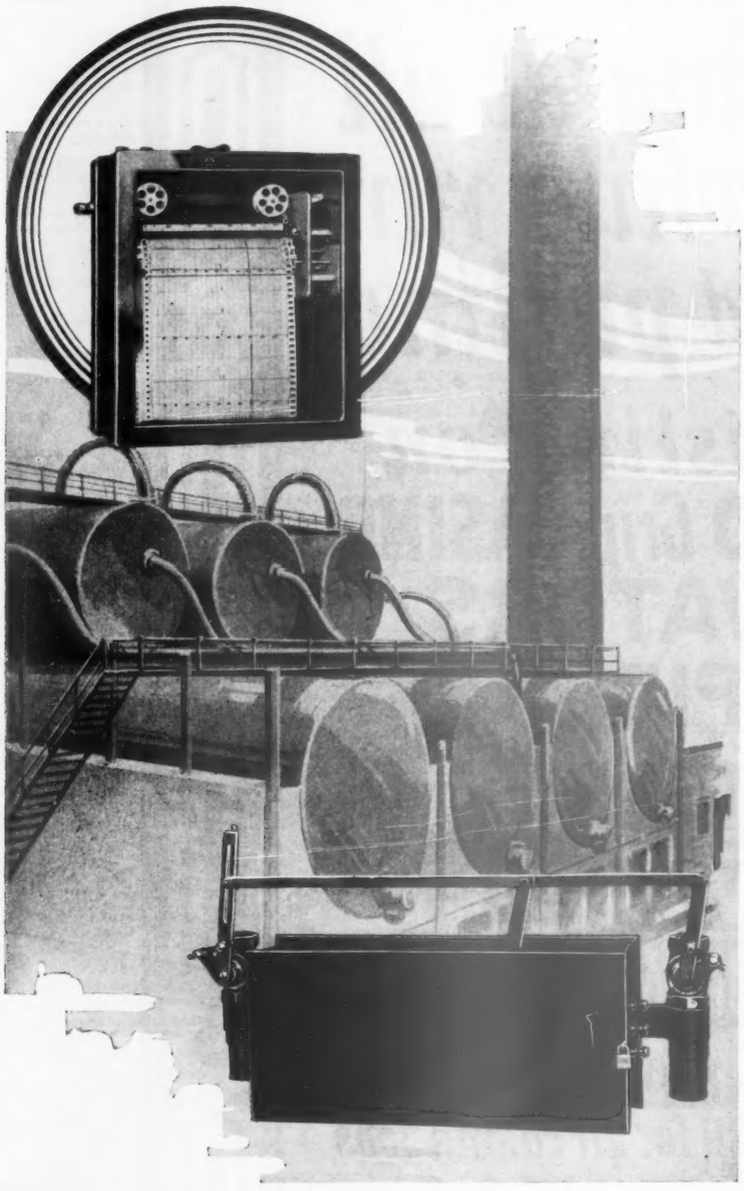

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Co.'s No. 1 Weatherby, Section 21, Block 5, is shut down at 4,330 feet to repair engine.

Kerr County

Walker-Van Duyn's No. 1 Leigh, Survey 38, located 500 feet north of river and 150 feet south of railroad, is drilling at 2,351 feet.

Hays County

J. E. Rodgers' No. 1 Hohenburg, 2½ miles east of San Marcos, is drilling at 1,350 feet.

Jackson County

Houston Gulf Gas Co.'s No. 1 White, Gale Survey, east 20 acres center, is bailing at 2,670 feet.

Lee County

Bowers and others' No. 1 Brenbaum, 2 miles east of Monheim, is shut down at 1,520 feet. M. O. Ricketts and others' No. 1 Sanders, Joseph Maximillian League, 250 feet to SE cor., is shut down at 800 feet.

Live Oak County

Houston Oil Co.'s No. 18 Cartwright, Colchado Survey, 2,404 feet to No. 5 on the northeast, is location. Delta Oil Co.'s No. 1 McNeil, Jane Curry Survey, 4,000 feet to NE cor., is shut down at 530 feet. R. P. Lightfoot's No. 1 Thomas, northwest of Coquat wells, is drilling at 825 feet with small amount of gas tested through Halliburton at 550 feet. Simmons Oil Co.'s No. 4 Sartain, Simms tract, is drilling at 1,720 feet after testing salt water and considerable gas under rock at 1,713 feet. J. W. Walton's No. 1 Roberts west of Three Rivers cored sand at 1,838-40 feet showing oil.

Medina County

Fennell & Williams' No. 2 John Fohn, Survey 115, east 100 acres, has been abandoned dry at 1,875 feet. C. W. Simpson's No. 1 Blocker, Survey 20, located 150 feet to north line and 305 feet to west line, at 1,242-51 feet cored sand showing salt water and at 1,240-49 feet had sand showing gas and salt water, and will plug off bottom to test again. R. P. O'Brien's No. 1 Nixon, Survey 531 is standing at 1,007 feet. Johnson's No. 1 Mumme, Survey 100, is standing at 1,100 feet. California-Medina's No. 1 Rothe, at 3,119 feet is pulling casing to drill deeper.

Maverick County

Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, center, is setting 12½-inch casing at 1,200 feet. Johnstone & Hout's No. 1 Whipff, 9 miles from Eagle Pass, is shut down at 1,200 feet. Ryeade Oil Corp.'s No. 1 Chittim, Section 129, Block 7, is finishing at 5,502 feet; No. 2 Sullivan had casing collapsed at 3,832 feet.

McMullen County

E. R. Marts' No. 3 Farmers Life, Survey south of No. 56, is location 2,000 feet to south line and 4,000 feet to east line; No. 8 Poitevent, Survey 56, is location 1,250 feet to south line and 150 feet to southwest lines. C. H. Atherton's No. 1 Lark, is having location made. R. L. Taylor's No. 2 Shiner, Survey 14, located 150 feet to SW cor., has been spudded in. Nelson & Woods' No. 1 Shiner, Survey 48, Block 74, located 1,000 varas to east line and 350 varas to south line, is shut down at 783 feet. George Pickett's No. 1 Jacob, Survey 7, located 660 feet to CNL, at 3,030 feet has completed contract depth. Nine foot core at bottom of hole shows traces of oil in formations supposed to be at base of Cook Mountain or top of Mount Selman, will drill deeper.

Nueces County

W. L. Pearson's No. 1 Meaney, located 300 feet from south line of tract, has derrick up; No. 2 Weil, west of Corpus Christi, is swabbing at 2,360 feet.

Wilson County

Thomas and others' No. 1 Aug. Haese, Survey 124, located 300 feet to NE cor., is finishing at 780 feet for slips.

San Patricio County

J. M. Davis No. 1 Welhausen & Driscool, subdivision 6 of Taft ranch, exact center of Lot 8, Section 68, is location with contract let for drilling. F. S. Smiley's No. 1 Wilson is location one-fourth mile northwest of Angelita. W. L. Pearson's No. 6 Cage, Rachal Survey, 1,550 feet south of No. 5, is on sand at 2,360 feet. Huber & Crawford's No. 1 Mathis, Delgavo Survey, Block 17, located 300 feet to northwest lines and 2,500 feet to southwest lines, is shut down at 2,516 feet. John Sigmund's No. 7 McCampbell is finishing at 4,012 feet.

Zavala County

B. F. Thompson's No. 1 West, northern part of county, West ranch, derrick up. J. G. Pundt, No. 1 West, Fuentes Survey, east of Uvalde is drilling at 110 feet.

SOUTHWEST TEXAS

(Continued from Page 57)

feet; No. 4 Bruni, Block 64, located 150 feet to north line and 200 feet to west line, has been spudded in.

Aviator Field

Columbia Petroleum Co.'s No. 14 Puig, Block 77, Albercas grant, is coring for sand below 1,700 feet.

Carolina-Texas Gas Field

D. J. Simmons' No. 2 de la Garza, Survey 335, Block 8, located 150 feet to SW cor., is standing at 400 feet. Ward and others' No. 1 Webster, NW NE NW, Survey 684, located 150 feet to NW cor., is fishing at 2,700 feet. Houston Oil Co.'s No. 1 Barnsley, Survey 268, Block 9, located 150 feet to SW cor., is on sand at 1,970 feet and set casing.

Cole Gas Field

Cole Petroleum Co.'s No. 46 Benavides, Survey 412, Block 5, located 1,032 feet to east line and 433 feet to south line, is drilling at 800 feet; No. 47 Benavides, Survey 412, Block 13, located 160 feet to east line and 450 feet to south line, is rigged up.

Mirando Valley Pool—Zapata

The Texas Company's No. 6 Jennings, Cerrito Blanco grant, located 7,200 feet to northwest lines and 16,800 feet to southwest lines, at 1,591-1,607 feet showed no oil or gas. Killam-Duggan's No. 2 R. B. Cuellar, Cerrito Blanco grant, at 1,500 feet to northwest lines and 2,700 feet to northeast lines, 2,300 feet east of No. 1 has rig up.

Charco Redondo Pool

Duke and others' No. 3 Martinez, Block 22, Duke-Langford, Charco Redondo grant, 150 feet to southeast and southwest lines, is drilling at 400 feet. Harlingen Oil & Gas Co.'s No. 5 Martinez, near Corrigan ranch, is testing at 1,021 feet.

Rockdale Field—Milam

Noack & Laning's No. 1 Neely, William Allen Survey, 150 feet to SE cor., is shut down. Noack Oil Co.'s No. 7 Seelke, T. J. Chambers Survey, is location 300 feet southeast of No. 6. Nochalk & Clark's No. 1 W. T. Johnson, J. J. Acosta Survey, 450 feet to NE cor., and a wildcat test 4½ miles north of Thorndale, is building rig. Lowenstein Oil Co.'s No. 3 well, in new southern extension, has struck green sand and still drilling with lots of rock. W. A. Jones' No. 1 Smith, T. J. Chambers Survey, 150 feet to northeast lines and 810 feet to southeast lines, a wildcat test northeast of Rockdale, is drilling. Kent & Middleton's No. 1 Arnold, new southern extension, has been drilled in dry. Yegua Oil Co.'s No. 1 Richards, J. H. Smith Survey, a wildcat deep test, 6 miles from Rockdale, is drilling at 1,100 feet, and may go to 3,500 feet. Glass Brothers and others' No. 1 deep test, a wildcat in the vicinity of Hicks, is rigging up. Rockdale Development Co.'s No. 3 Lorenz, Thompson Survey, has set casing. Groneman Brothers' No. 1 Key, Houston & Prewitt Survey, in New Salem territory in the southern end of Milam County, is drilling at 1,700 feet and expects the sand at 1,800 feet. McCormick & Noack's No. 1 Taylor Wooten, William Allen Survey, center, has a slight showing and may make a small producer. Coffield & Hale's No. 1 Shelton, south of Rockdale in new extension will be spudded in soon. Fritz Fuchs' No. 3 Lon Hudson, offsetting No. 4 J. B. R. Smith on the north, has been abandoned a dry hole. F. Caudley's No. 3 Luetge, T. J. Chambers Survey, 300 feet northwest of No. 2, has been drilled in a small producer. Coffield & Hale's No. 1 Alford, north of city limits on the Brushby Road, has been abandoned a dry hole.

Kingsville Field—Kleberg

Houston Oil Co.-A. C. Erwin's No. 1 Kivlin, Lot 7, Section 50, located 660 feet to SE cor., is at 2,520 feet, 300 feet in gumbo and reaming, with tests taken in last couple of hundred feet showing salt water and sulphur water but no gas; No. 1 Kissman, Lot 9, Section 41, is location and derrick material has been ordered out. Humble Oil & Refining Co.'s No. 4 R. J. Kleberg, Lot 6, Section 40, located 660 feet to east line and 810 feet to south line, has been spudded in; No. 1 Gulf-Dennett, Lot 18, Section 38, located 630 feet to west line and 150 feet to north line, is drilling in rock at 1,900 feet and has reduced size of the hole; No. 1 Kleberg-Trustee, Lot 8, Section 40, located 150 feet to NE cor., is coring at 3,800 feet; No. A-3 Dennett, NW cor., Lot 2, Section 39, is shut down at 2,740 feet; No. 1 Kivlin, Lot 4, Section 39, NW cor., at last reports, with 500 feet of open hole, is making 50 bbls. of oil and 1,000 bbls. of water, total depth 3,070 feet.

Adams Gas Field—Medina

Western Gas & Fuel Co.-Witherspoon Oil Co.'s No. 2 Adams, Block 7 of the Adams ranch and due west of Lange's No. 1 is rigged up. Witherspoon Oil Co.'s No. 1 Bader, Survey 135, located 150 feet to north line and 400 feet to west line, at 1,096 feet in sand topped at 1,071 feet made 2,000,000 feet of gas; No. 1 L. J. Schmidt, Survey 526, at 800 feet to north line and 400 feet to east line, is drilling; No. 3 J. P. Nixon, Survey 119, at 150 feet west of No. 2, the wild gasser, is drilling; No. 1 Nixon, Survey 527 at 800 feet to south line and 400 feet to east line, is location. Western Gas & Fuel Co. and C. E. Lange's No. 6 Adams is location 1,550 feet northwest of No. 5.

Refugio Gas Field—Refugio

Houston Oil Co.'s No. A-2 Rooke, T. Mullen Survey, 677 feet to north line and 700 feet to east line, has set surface casing; Houston Oil-Pratt-Hewitt's No. 5 Rooke, is preparing to rig up over old hole at 2,440 feet and complete to that depth or to drill deeper. Houston Gulf Gas Co.'s No. 7 Lambert is drilling at 1,700 feet; No. 2 Lambert is drilling at 2,400 feet; Houston Gulf Gas Moody's No. 1 Wilson Heard tested salt water at 1,920 feet and is drilling deeper. William F. Morgan's No. 2 Rose Rogers, Powers Survey, half mile from production, is shut down at 2,440 feet; No. 1 S. J. Ryals, in center of field, is drilling at 2,680 feet.

Somerset Field—Bexar and Atascosa

Grayburg Oil Co.'s No. 36 Ernest, Survey 366, located 230 feet to east line and 716 feet to south line, has been completed an average well of 10 bbls.; No. 29 Caruthers, Survey 377, located 1,000 feet east of No. 26, has been completed making 8 bbls.; No. 16 Shaw, Survey 278, at 255 feet to west line and 1,420 feet to south line, at 1,230 feet is an average well of 8 bbls.; No. 14 Ed Wells, J. R. McKinney Survey, 1,500 feet to west line and 3,400 feet to north line, is drilling at 1,930 feet and will go to the chalk; No. 37 Ernest, W. C. Brown Survey, 980 feet to west line and 720 feet to north line, has been completed a 10-bbl. well; No. 17 Shaw, E. A. Jasper Survey, 200 feet to east line and 1,110 feet to south line, has been completed a 8-bbl. well; No. 38 Ernest, derrick blew down before well could be spudded in and is being rebuilt. G. E. Ginter's No. 1 Gayle, C. A. Yoakum Survey, 2,750 feet to north line and 150 feet to east line, is location. Associated Petroleum Co.'s No. 16 Caruthers, William Caruthers Survey is location 604 feet south of No. 2; No. 2 Ernest, Survey 266 is location 550 feet west of No. 1.

GULF COAST FIELDS

(Continued from Page 59)

George White, trustee, No. 3 Rush, is drilling around 4,300 feet, deepening.

The Yount Lee Oil Co. has started No. 32 Gladys. No. 26 fee is at 4,435 feet. No. 13 McFaddin is deepening at 5,000 feet. Casing was set in No. 33 at 4,638 feet. No. 34 is below 3,875 feet. No. 25 is deepening.

On the northwest flank at Pierce Junction, 8 miles south of Houston, the Rio Bravo Oil Co., a subsidiary of the Southern Pacific Railroad, is rigging No. 8 Settegast. No. 3 Bender is drilling around 3,565 feet, and No. 5 is rigging. Smith and others' No. 2 Parson is at 2,545 feet. The Marland Oil Co.'s No. 1 Prudent, deepened to 3,700 feet, will make a pumper. Lee & Woodward set casing at 3,700 feet in No. 2 Settegast. M. J. Bashara's No. 1-B fee is rigging. On the east flank, the Gulf Production Co.'s No. 20 Taylor will be drilled deeper, as will the Navarro Oil Co.'s No. 2 Cain. The Texas Exploration Co.'s No. 10 Dooley is idle.

In the Hull Pool, the Republic Production Co.'s No. 33 Dolbear is working over, and No. 62 is drilling deeper. The Gulf Production Co.'s No. 86 Phoenix is around 4,100 feet. The Texas-Vacuum companies' joint No. 5 Hannah is at 3,510 feet, with a location for No. 7. The Texas Company's No. 3 Taylor is drilling around 3,600 feet. The Mecom Oil Co.'s No. 1 Taylor is deepening. J. H. Antilly's No. 5 Abel is at 2,355 feet. The Big Dome Oil Co.'s No. 2 Palmer is at 980 feet.

In the Goose Creek Pool, the Gulf Production Co.'s No. 7 Houston-Smith is at 2,570 feet. No. 14 Chapman-Bryan is around 2,900 feet. The Humble Oil & Refining Co.'s No. 71 Smith on the east side is at 4,465 feet, with No. 72 Smith rigging. The Powell Oil Co.'s No. 6 Bryan is rigging to drill deeper, as is the Port Oil Co.'s No. 1 Adey.

The Gulf Production Co.'s No. 4 Granger in the Orange Pool is drilling around 3,615 feet. The following are rigging to drill deeper: Texhoma Oil Co.'s No. 16 Chesson; Tillery Oil Co.'s No. 3 State land in Cow Bayou, and the Rycade Petroleum Corp.'s No. 14-B in Cow Bayou.

Other Pools

The Sinclair Oil & Gas Co. and Brazos Oil Co.'s joint No. 1 Wisdom on the north flank of the Damon Mound Dome is coring between 600 and 700 feet. It is in the shallow sand section, and is the first well drilled at Damon Mound in nearly two years.

The Humphreys Corp. has reset strainer in No. 4-B Kirby on the east flank at Barber Hill in Chambers County at 4,150 feet and will bail the hole. The Humble Oil & Refining Co.'s No. 1 Kirby is drilling at 4,100 feet. Barclay & Meadows have a derrick up for No. 5 Winifree.

In the Batson Pool, the Sun Oil Co.'s No. 76 Paraffine is drilling around 400 feet. The Texas Company's No. 1 Sterling is rigging. No rigs are drilling in the Sour Lake or Saratoga Pools. The Sun Oil Co.'s No. 11 Cade at High Island is at 2,710 feet.

In the pools southwest of Houston, the Gulf Production Co.'s No. 29 T. W. Davis at Big Creek is drilling around 4,245 feet. The same company has one rig running at Orchard in Fort Bend County.

At Blue Ridge, Gulf company's No. 15 Blakely is drilling deeper. No. 11 West-Schenck is at 2,085 feet. The Navarro Oil Co.'s No. 2-A Robinson is at 3,154 feet, and No. 2-B Robinson is below 700 feet. The Overly Production Co.'s No. 1 Blakely is reaming at 4,956 feet.

The Texas Company's No. 23 Arnold in the West Columbia Pool is drilling at 3,980 feet, with a location made for No. 83 Hogg.

A number of shallow tests have been started on the Boling Dome. Weed & Gayle are drilling Nos. 6 and 7 Keller and No. 11 Feltz. The Gulf Production Co. is starting No. 5 Chase on the south flank, No. 3 Cloud, No. 1 Davided and No. 1 Anderson. H. B. Weathersly is drilling No. 2 Kostelnik. A. C. Benson No. 1 Kostelnik and No. 1 Robins. F. E. Wallace No. 1 Nieckert, and the Ingraham Prospecting Co. No. 1 Mensing. The Sun Oil Co.'s No. 3 Felder on the northeast flank is drilling around 2,500 feet.

Hamill and Moody Oil Corp.'s No. 1 Sisk on the north side of the Markham Pool drilled into rock salt at 3,206 feet. This is higher than it has been previously found on that side of the dome.

South Louisiana Pools

In the Vinton Pool, the Gulf Refining

Co.'s No. 42 Star is at 2,810 feet. The Vinton Petroleum Co.'s No. 7 Rescue is at 2,574 feet, and No. 37 Gray is drilling around 2,000 feet. The Louisiana-Colorado Oil Co.'s No. 1 Johnson is drilling around 2,765 feet. McLean's No. 4 Gray will be deepened. A location has been made for No. 12. Wilson & Broach's No. 5 Lyons will be deepened.

In the Jennings Pool, The Texas Company's No. 3-B Latrielle is drilling at 1,900 feet. The Mentau Oil Co.'s No. 2 Pierce is around 2,100 feet.

In the Edgerly Pool, Gulf Refining Co.'s No. 42 Bright-Penn is at 1,055 feet. The Green Oil Co.'s No. 8 Moore is around 600 feet. The Hercules Oil Co.'s No. 2 Paraffine is about 900 feet. The Rex Petroleum Co.'s No. 6 Hunter is at 3,545 feet. Crotty Oil Co.'s No. 12 Lilliard is deepening at 2,360 feet.

In the Lockport Pool, the Vacuum-Gulf companies' joint No. 4 Friedberg & Wolf is drilling at 3,046 feet. No. 5-A Farquhar is fishing at 4,600 feet. No. 6 Miller will be deepened. No. 17 Miller is drilling around 3,565 feet, and No. 18 is a location.

COASTAL TEXAS

Austin County

Raccoon Bend Dome: Humble Oil & Refining-Valley Oil companies' joint No. 2 Reese setting screen at 3,362 feet. No. 1 School lands drilling below 4,050 feet.

Hickory Mound: R. E. Graves' No. 1 Cleveland reaming at 1,575 feet.

Brazoria County

Clemens Dome: Roxana Petroleum Corp.'s No. 2-A Pabst drilling in sandy shale around 5,625 feet. No. 4 Clemens drilling around 4,900 feet.

Allen Dome: Roxana Petroleum Corp.'s No. 4 Allen drilling below 2,435 feet. A derrick is up for No. 1 Randon. No. 1 Bernard River, which showed for a well and sanded is still working over. It bailed some oil at 5,140 feet.

Stratton Ridge Dome: Pure Oil-Humphreys Corp.'s No. 1 Armstrong is preparing to set casing to test 18 feet of sand around 4,200 feet. The Associated Oil Co.'s No. 1 Seaburn, reported last week as abandoned, is fishing for drill pipe lost in the hole. The depth is around 4,085 feet.

Hinkle Ferry: A location has been made by Starks and others for No. 2.

The Danciger Oil Co. is starting No. 1 Bartlett, 3 miles west of the West Columbia Pool.

Fort Bend County

Long Point Dome: Gulf Production Co.'s No. 5 Beard is drilling around 2,000 feet. No. 3 Wolfe is at 860 feet, and No. 3 Trone around 845 feet. A location has been made for No. 25 Davis.

Goliad County

Houston Oil Co.'s No. 1 Lott is rigging.

Harris County

Hockley Dome: Humble Oil & Refining Co.'s No. 1 Warren is drilling around 2,900 feet. Dr. P. S. Griffith's No. 2 fee, north of Houston, is idle at 3,520 feet.

Jefferson County

Fannette Dome: Gulf Production Co.'s No. 3 Bordages is deepening at 5,415 feet. It bailed salt water last week at 5,329 feet.

Big Hill Dome: Houston Oil Co.'s No. 2 Fitzhugh is drilling around 3,200 feet.

Liberty County

D. J. Harrison's No. 1 Quintette sidetracking around 4,400 feet.

Matagorda County

Hawkinsville Dome: Gulf Production Co.'s No. 3 Sanborn is drilling around 3,510 feet. Bay City: Matagorda Development Co.'s No. 1 Hawkins is drilling around 1,335 feet.

Orange County

Adams Bayou: W. C. Wells' No. 2 Stark is drilling around 3,615 feet.

Sabine County

Crater Oil Co. is drilling No. 1 Showls in the southeast part of Sabine County below 2,100 feet.

Waller County

Geophysical tests are being made on a block of 8,000 acres in Waller County by McCarthy & Templeton of Houston. It is located on the east side of the Brazos River, across from the Raccoon Bend district in Austin County.

Humble Pool

The Webb Oil Co.'s No. 13 Webb in the old section of the Humble Pool is drilling. The Gulf company is making a deep test there on the Burt & Griffith lease. Several old wells are either being worked over and new screens set or being drilled deeper.

Washington County

Pratt-Hewitt Co.'s No. 2, near Brenham, is drilling around 3,320 feet.

Shelby County

Magnolia Petroleum Co.'s No. 1 Pickering Lumber Co. is drilling around 2,400 feet.

SOUTH LOUISIANA

Ascension Parish

Sorrento Dome: Gulf Refining Co. has location for No. 2 United Lands. No. 1 blew out last week at 1,600 feet and created a crater that swallowed the derrick and rig.

Calcasieu Parish

Sulphur Dome: Union Sulphur Co.'s No. 720 fee is milling casing at 4,395 feet. Doctor Hintzse's No. 1 Binkenstein is shut down at 4,260 feet. Calcasieu Lake: Border Research No. 1 is around 5,125 feet.

Cameron Parish

Sweet Lake Pool: Pure Oil Co.'s No. 4 is drilling below 3,870 feet, and No. 5 is around 4,350 feet. Hackberry Island Dome: Yount Lee Oil Co.'s No. 4 State land is drilling at 4,784 feet. No. 10 Gulf land is around 4,610 feet. Calcasieu Oil Co.'s No. 1 Caldwell is drilling at 2,435 feet. Border Research No. 1 in Sabine Lake is below 2,000 feet.

Iberia Parish

Eagle Point Dome: Gulf Refining Co.'s No. 2-Z State land is idle at 1,365 feet, as is the Calcasieu Oil Co.'s No. 1-A Schwing at 3,000 feet. Border Research's No. 1 in Vermillion Bay is drilling at 2,610 feet.

St. Mary Parish

Border Research Corp.'s No. 1 in Grand Lake is shut down at 4,520 feet. No. 1 West Cote Blanche is around 810 feet in a water sand.

LOUISIANA-ARKANSAS

(Continued from Page 56)

troleum Co.'s No. 1 Bell, Section 4-17-16, is drilling in shale at 1,810 feet. This company's No. 20 Robertshaw, Section 23-21-15, is being rigged up for cable tools, having reached a depth of 3,722 feet. Marshall Natural Gas Co. had a showing of gas in No. 1 Sharp, Section 22-18-16, at 1,910 feet when a test was made with a sand tester. This test now is shut down.

J. M. Miller has started operations in No. 7 Solly, Section 22-21-15, and already has reached a depth of 1,390 feet where 4½-inch casing has been set. Ohio Oil Co. is drilling in shale at 940 feet in No. 1-E Plum, Section 32-23-16. Ten-inch casing was set at 204 feet. This company's No. 25 Smith, Section 12-21-15, is in a broken lime at 3,780 feet. Shreveport Oil Corp.'s No. 2 State, Section 27, is down 2,206 feet. Simplex Oil Co.'s No. 3 Thomas, Section 15-20-15, is drilling at 2,288 feet. Standard Oil Co. has cemented 6-inch casing at 1,811 feet in No. 185 Stiles, Section 33-21-16. No. 2 Trosper, Section 34, is down 475 feet in gummy shale. The Texas Company has set 12½-inch surface casing at 103 feet in No. 1 Alexander, Section 27-18-16. This company's No. 4 Hutchinson, Section 9-15-12, is drilling at 859 feet. No. B-13 Noel, Section 14-21-15, is losing returns at 3,160 feet.

Monroe District

Falcon Drilling Co. is drilling at 1,680 feet in No. 1 Gladney, Section 5-21-7e, Morehouse Parish, Natural Gas Producing Co. is down 1,500 feet in No. 20 Crossett, Section 21-23-7e.

In Ouachita Parish, Jordon Drilling Co. is down 700 feet in No. 2 Fudican, Section 25-18-4e. Ladell Properties, Inc., is arranging to deepen No. 40 fee, Section 29-20-5e. It tested 4,000,000 feet of dry gas at 2,224 feet. No. 41 fee, Section 31, is drilling at 2,118 feet.

In Union Parish, C. E. Camette is drilling at 2,405 feet in No. 1 Tugwell, Section 21-22-1e.

LaSalle Parish

Natural Gas & Fuel Corp. is drilling at 1,450 feet in No. M-9 Urania, Section 20-10-2e, Urania Field. Wingfield and associates have completed No. 1 Gibson, Section 2-9-1e, flowing 200 bbls. daily from broken sand at 1,482-95 feet.

Webster Parish

W. T. Hunt's No. 1 Bistenau, Section 35-18-10, is drilling at 922 feet. Red beds were topped at 915 feet. Louisiana Oil Refining Corp. is down 2,575 feet in No. 7 Gray, Section 28. Magnolia Petroleum Co.'s No. 3 Cox, Section 23, is drilling lime at 2,950 feet. This company's No. 1 Marshall, Section 21, Cotton Valley Field, is pumping 140 bbls. from sand at 2,547-57 feet. No. 2 Marshall is down 2,544 feet where 6⅝-inch casing has been cemented. Northwest Louisiana Gas Co. is drilling anhydrite at 4,280 feet in No. 1 Coyle, Section 22. Ohio Oil Co.'s No. 4 Bank, same section, is in hard lime at 3,700 feet. Woodley Petroleum Co. is drilling at 2,600 feet in No. B-1 Cox, Section 23.

ARKANSAS

Union County

In the Norphlet area of the Smackover Field, National Gas & Fuel Corp. has a well pumping 286 bbls., 30 per cent salt water, daily from sand at 2,391-96. This is the No. E-3 Murphy, Section 9-16-15. Also in this section is Humble Oil & Refining Co.'s No. B-2 Flenniken, which has been abandoned, a total depth of 2,776 feet having been reached. National Gas & Fuel Corp.'s No. F-5 Murphy, this section, is coring at 2,403 feet. Hollifield and associates have a location in this section for No. 3 Murphy. Ohio Oil Co.'s No. 5 Murphy, this section, is down 2,883 feet. The 4¾-inch casing was recemented at 2,686 feet. Stewart and associates are cementing back to the Meakin sand from a total depth of 2,484 feet in No. 3 Murphy.

Magnolia Petroleum Co. has completed No. 9 Murphy, Section 8, estimated at 12,000,000 feet of gas. This gas is producing from sand at 2,723-36 feet and has a rock pressure of 250 pounds. Gulf Refining Co. has a location for No. 11 Berry, Section 6. This company also has a derrick up for No. 45 Murphy, Section 4-16-15. E. M. Jones has set a short string of 4½-inch casing at 2,447 feet in No. 2-A Lawton, Section 10. Magnolia Petroleum Co. is rigging up No. 3 Murphy, Section 8. This company's No. 6 Wilson, Section 17, is waiting on cement to set, after having plugged back to 2,750 feet. Total depth of the hole is 3,006 feet. In this section is Murdock and associates' No. 1 Vestal, which is sidetracking junk at 2,240 feet. Total depth of the hole is 2,813 feet. Sam Richardson is fishing for junk in No. 2 Lawton, Section 10. This test formerly completed at a depth of 2,331 feet making 30,000,000 feet of gas daily. Southern Crude Oil Purchasing Co. is arranging to set a short string of 4½-inch casing at 2,704 feet in No. A-5 wells, Section 15, Sun Oil Co.'s No. 3 Hays, Section 3, has been plugged back from a total depth of 2,367 feet to 2,212 feet, after a sand at 2,289-94 feet tested dry. Casing was perforated at the latter depth. In this section Unity Petroleum Co. is rigging up to drill No. 15 Roper. The derrick for this test has been completed since early in March.

In the Louann sector, G. J. Childs' No. 2-B fee, Section 8-16-16, is waiting on a standard rig, having 300 feet of oil in the hole from sand at 2,260-70 feet. Magnolia Petroleum Co. is bailing No. 1 Union Lumber Co., Section 21-16-16. It has 21 feet of broken sand at 2,670 feet. The sand tested dry at 2,662 feet.

Atlantic Oil Producing Co. is down 1,120 feet in No. 11 Dumas, Section 9-17-16, Lisbon Pool. Ten-inch surface casing was cemented at 160 feet. Grimes & Jones have started operations in No. 1 Hill, Section 7-18-14, east Eldorado Field, but are losing returns with the hole down 130 feet. Mountz and associates have cemented 6-inch casing at 2,146 feet in No. 6 Pratt, Section 8-18-15, main Eldorado Field.

Ouachita County

F. A. Book's No. 3 Johnette, Section 33-15-16, Louann Field, was bailed dry at 2,252-54 feet with no showing of oil. In the Norphlet district, Exchange Oil Co. is drilling at 2,280 feet after having milled through casing at 1,850 feet in No. 3 Berg, Section 4-16-15. In No. 7 Berg, this section, a short string of 5 3/16 casing has been set at 2,357 feet. A casing seat at 2,351 feet was lost. Marine Oil Co. has started operations at No. 10-A Snyder, Section 34-15-15, and has set 10-inch surface casing at 99 feet. Phillips Petroleum Co. is fishing for cable tools at 2,639 feet in No. 15 Joyce, Section 33-15-15. Roxana Petroleum Corp. is arranging to abandon No. 1 Reynolds, Section 27-15-15, a depth of 2,689 feet having been reached. The Texas Company's No. 1 Spahr, Section 35-15-16, was bailed dry at 1,198 feet and now is shut down waiting orders. Unity Petroleum Co. is drilling out cement at 1,930 feet. This test originally was drilled to a depth of 2,388 feet.

In the Stephens district, Buffalo Oil Co. is drilling at 1,000 feet in No. 3 Culp, Section 22-15-19. Magnolia Petroleum Co. has shut down No. 1 Morgan, Section 7-15-19, with the hole at a depth of 2,800 feet.

A. M. Sutton has abandoned No. 2 Schoolhouse, Section 28-15-16, Louann district, after drilling to a depth of 3,060 feet.

Nevada County

Fruen and associates' No. 1 Rhodes, Section 22-12-21, has been shut down waiting orders at 1,200 feet. Humble Oil & Refining Co. has set 10-inch surface casing at 73 feet in No. 1 Hein, Section 1-14-21. J. J. O'Brien's No. 2 Moss, same section, is in sand at 1,142-45 feet but has been shut down waiting orders. No. 3 Moss, also same section, is being rigged up.

FARMINGTON, N. MEX.

(Continued from Page 54)

Section 2-17-9, got water in the Mesa Verde sand that was productive in No. 1 The sand was encountered at a depth of 1,604 feet. This well is about a half mile west of No. 1 and proves that the structure does not extend very far in that direction.

The Williams-Staplin well, in the Hospah district, Section 30-18-8, is very close to the producing sand and report that it had been encountered may be expected at any time.

Williams' No. 4, in the Meadows district, Section 30-30-15, is said to have got a water shutoff by cementing and will drill in as soon as the cement has set sufficiently.

Blanco District

The Union Oil & Mining Co., operating in the Blanco district, is trying to connect the 5-inch casing used for fishing with the lost tools but at last report had not been able to fasten on to them. Another big volume of gas blew out of the well in a head and it is believed it loosened the tools and let them drop back some 60 feet deeper.

C. W. Whipple, field manager of the Huntington Park Petroleum Corp., has returned from California and announces he has a steel rig in Gallup which he is trucking in to start operations again in the Blanco district on acreage, Section 29-30-9. It will be remembered that this company brought in the initial producer in the Blanco district, but has done no drilling since. It now proposes to test the Mesa Verde sand. The first production was in the Farmington sand.

Wiley & Craft, operating in the Bloomfield district, Section 15-29-11, encountered oil at 730 feet that would produce about 5 bbls. per day. It went on down about 30 feet farther and encountered a perfectly dry sand that will absorb the higher production. It has not been decided whether to go deeper or not, but probably they will.

C. S. Ringle, drilling under contract for Benedum-Trees in the Seven Lakes district, has completed pulling casing and is dismantling preparatory to moving the rig a mile east where another well will be put down higher on the structure.

S. Dysart, drilling on the Ambrosia structure in McKinley County, has run her final string of casing at a depth of 997 feet and expects production in a short distance.

Users Know the Difference!

Here is what an Expert Finds Out About Reading Casing and Tubing.

605 Nebraska Ave.,
Long Beach, Calif.,
August 5, 1926.

Mr. A. F. McClintock,
826 Van Nuys Bldg.,
Los Angeles, Calif.

Dear Sir:

In regard to the different Reading Iron Co. products used in the wells on the W. R. Ramsey properties, in the Long Beach Field, California, and the reasons for using these products, I will state as follows:

There were fourteen wells drilled in all, and of these thirteen were equipped with Reading tubular goods, 8¼" for water strings, 6¼ and 4½ for oil strings and 2½ and 3" tubing. We felt, that due to the unknown qualities of the surface and deep waters, it would be the best policy to use a material which we knew would resist corrosion to the greatest possible extent. It was for this reason primarily that we decided on the exclusive use of Reading iron for our water strings and in most cases for our oil strings as well, on account of the ultimate encroachment of edge waters in the oil sands. We found the best kind of workmanship in the couplings and threads, and very few joints had to be laid down.

In the thirteen wells equipped with Reading Casing we did not fail in a single water shut-off and up to the time of Mr. Ramsey's sale of the property, June 1, 1926, we had not had a water string show signs of leaking.

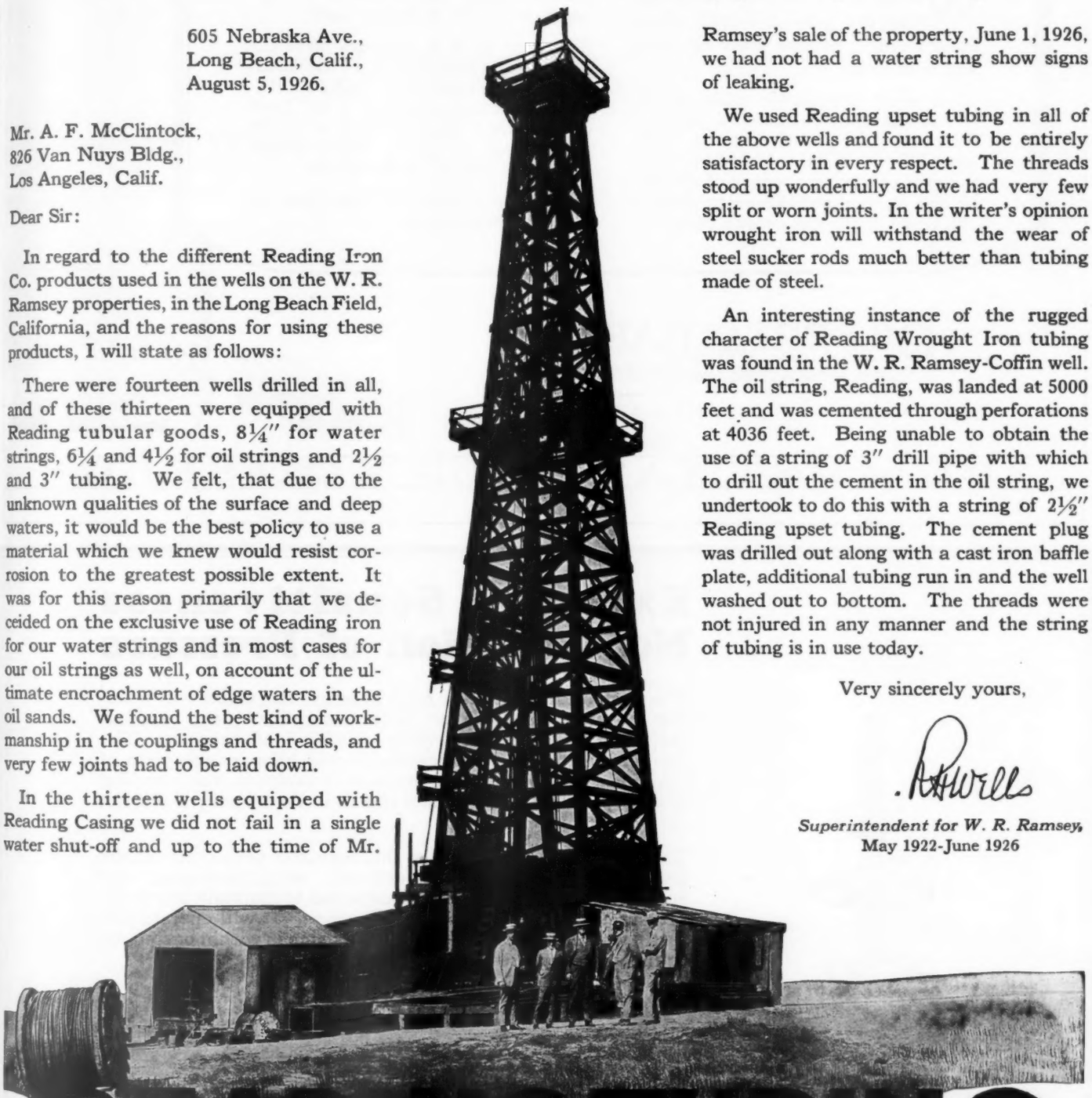
We used Reading upset tubing in all of the above wells and found it to be entirely satisfactory in every respect. The threads stood up wonderfully and we had very few split or worn joints. In the writer's opinion wrought iron will withstand the wear of steel sucker rods much better than tubing made of steel.

An interesting instance of the rugged character of Reading Wrought Iron tubing was found in the W. R. Ramsey-Coffin well. The oil string, Reading, was landed at 5000 feet and was cemented through perforations at 4036 feet. Being unable to obtain the use of a string of 3" drill pipe with which to drill out the cement in the oil string, we undertook to do this with a string of 2½" Reading upset tubing. The cement plug was drilled out along with a cast iron baffle plate, additional tubing run in and the well washed out to bottom. The threads were not injured in any manner and the string of tubing is in use today.

Very sincerely yours,

R. H. Wells

Superintendent for W. R. Ramsey,
May 1922-June 1926

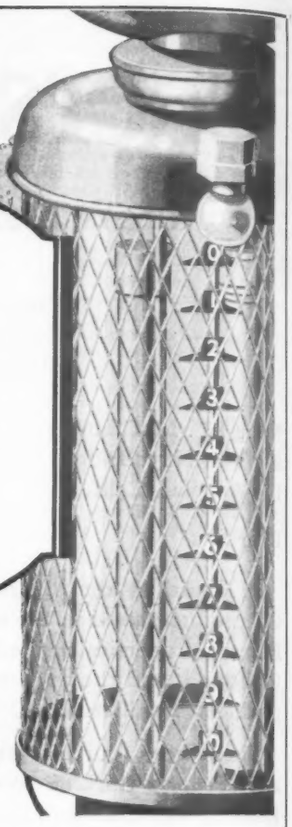


READING TUBING

GENUINE WROUGHT IRON

READING IRON COMPANY HOUSTON, TULSA, SHREVEPORT, LOS ANGELES READING, PENNSYLVANIA

They ask for only five—*but finally buy 7 or 8*



WATCH the average motorist buying gas. He will often ask for only 5 gallons when his tank will hold more.

Does your* distributor make an effort to sell those extra 2 or 3 gallons? *He does,* if he has the new G. & B. Model T-179 Visible. A simple movement of a lever, an opening of the discharge valve—and the extra gallonage flows to the customer's tank.

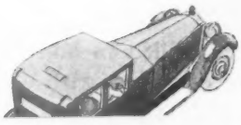
No time lost! No trouble! Everybody satisfied! A bigger sale!

Two new G. & B. Visibles offer the oil marketer this G. & B. PROGRESSIVE METHOD OF DELIVERY. Both start delivery with a full bowl of gasoline. Model T-179 is of the mechanical measure type—Model T-176 for control at the nozzle.

Write for interesting literature on either or both pumps.

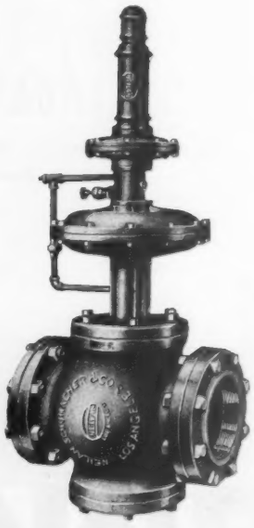
GILBERT AND BARKER MANUFACTURING COMPANY
PUMPS AND TANKS FOR THE OIL TRADE
SPRINGFIELD MASS. U.S.A.

**Over 1200 oil marketers are using G. & B. equipment.*



PUMPS THAT HELP YOU SELL

The NEILAN Pilot Sensitive Back Pressure Regulator No. 45.



Designed especially for absorption plants.

Extreme Sensitiveness No Variation of Pressure

The Neilan Pilot sensitive Back Pressure Regulator will maintain constant pressure on your absorption plant, without variation, regardless of widely varying load changes. The close, accurate, sensitive regulation will increase the yield of gasoline. When the plant pressure is constant, the pumping of absorption oil is steady and the oil in the absorbers will not carry over.

The improved construction of this regulator overcomes all the troubles encountered with ordinary weight-and-lever and spring-loaded types. It can be adjusted to maintain any back-pressure and any degree of sensitiveness. It will operate perfectly when the pressure on the outlet side is within one pound of the upstream pressure.

Simple in Design and Construction. Absolutely Reliable. Trouble Proof. Long Life.

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"You Can Be Sure of Neilan Products"

RECORD OF DISCOVERY WELLS IN COOKE COUNTY, NORTH TEXAS.

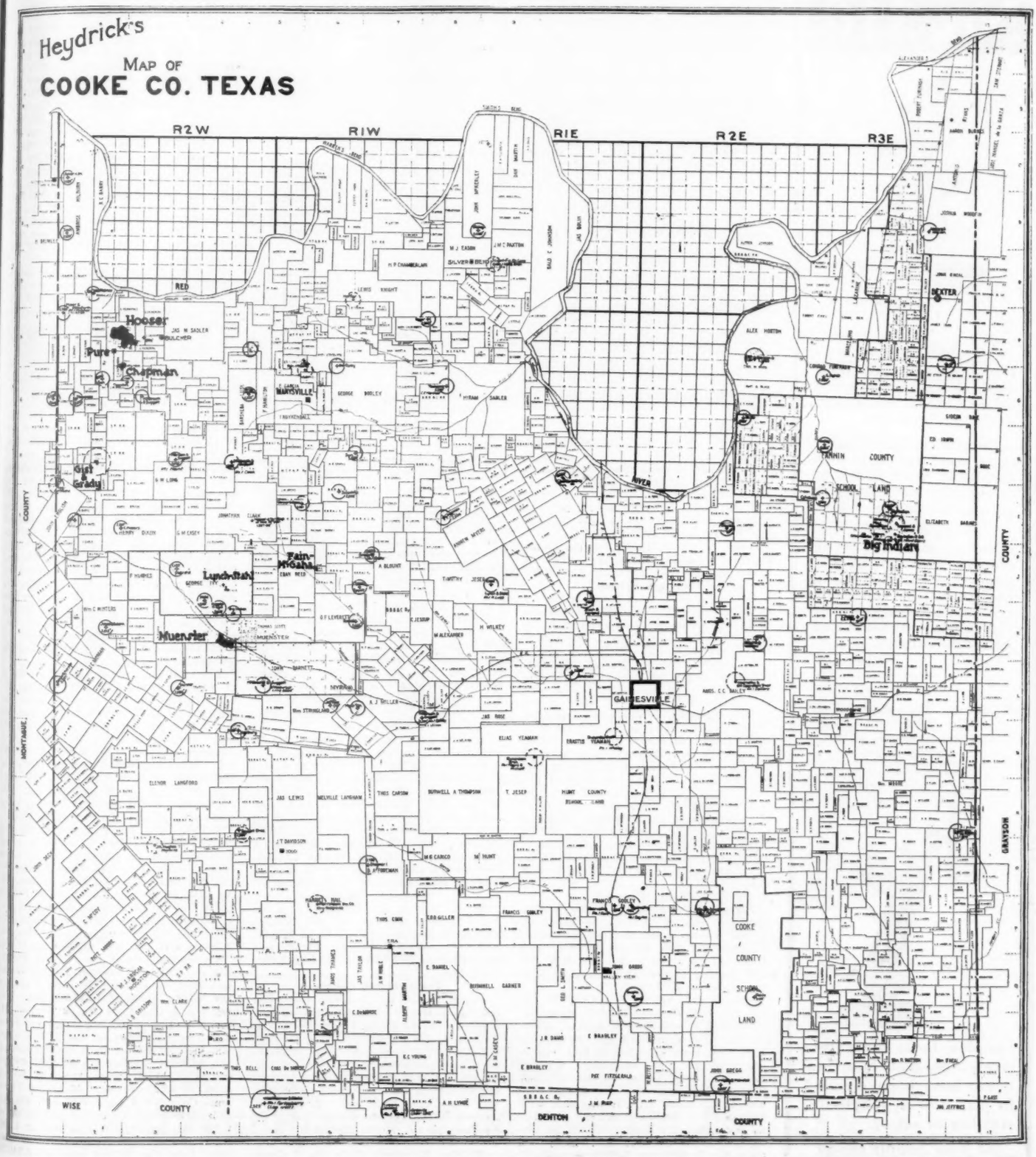
Company, No. Farm, Date Completed—	Sand Depth	Init. Prod.	Gravity	Remarks—
Big Indian O. & D. Co., No. 1 Bud Davis, Nov. 9, 1924	3,520	15	48	First oil in county—still pumps 10 bbls. used for fuel.
John Hooser & C. C. Lanier, No. 2 Hyman, June 30, 1926	1,248-53	165	34	Opened Bulcher or Hooser Pool. Well No. 1 was junked.
Lynch, Stahl & Burress, No. 1 Danglemeier, Sept. 24, 1926	797-806	10	35.5	Opened small pool north of Meunster.
Oil Operators Trust Co., No. 1 Ben Luke, Jan. 10, 1927	1,278-82	120	38	Opened Muenster Townsite Pool.
Magnolia Pet. Co., No. 1 Alice Johnson, Feb. 28, 1927	1,179-97	3m.	gas	Opened gas area N of Muenster.
Chapman & Lanier, No. 1 Montgomery, April 1, 1927	1,310-18 T.D., 1,327	126	38	Opened separate pool south of Hooser Pool, 1 mile.
Oil Operators Trust Co., No. 2 Kleiss-A, April 1, 1927	1,585-99	250	30.7	Opened Muenster deep sand, swabbed 672 bbls. in 48 hrs.
Fain-McGaha Oil Corp., No. 1 Otto (Vestal) Apr. 2, 1927	963-67 T.D., 970	27	36	Opened small pool.
Pure Oil Co., No. 1 Embry.....June 6, 1927 Danciger O. & R. Co. (was Gist & Grady), No. 1 Harris, June 6, 1927	1,403½-08 1,751-53	400 ...	....	Opened SW extension Hooser Pool. Opened new pool southwest of Hooser and Pure-Embry. Not yet tested.

COOKE COUNTY, TEXAS, AN IMPORTANT FACTOR

(Continued from Page 50)

much. In fact some of the old dry holes in Cooke County may have passed up chances to make a well. Anyway, since Ed Ruwaldt drilled his Muenster Pool extension on 1.13 acres of land, other operators will probably feel that they can afford to wildcat on less than 2,000 or 3,000 acres.

The first drilling in Cooke County of which the writer can find any record originated in 1909 when the Red River



—Courtesy Heydrick Mapping Co., Wichita Falls, Tex.

Simplex Emergency Jack No. 310

No. 310—Capacity 15 tons
Single acting—automatic lowering

No. 310 is known as the Jack of a hundred uses. A standby in every oil field. Operates at any angle or vertically.

Built with drop forged steel working parts and furnished with five foot steel chain—steel auxiliary claw and steel level bar.

Unsurpassed for extricating stalled motor trucks—jacking steam engines—raising and setting boilers, raising sand reels and casing sills, skidding rigs and moving tanks and heavy machinery.

Templeton, Kenly & Co., Ltd.
Established 1899
Sole Manufacturers of the Simplex Jacks
Chicago, Ill., U.S.A.

Simplex Jacks are extensively imitated but they never have been equaled in man-power, simplicity, stability or safety.

At Your Supply House

Oil & Gas Co. drilled a couple of wells about 8 miles north of Gainesville. Benfield's No. 1 Ball, east of Muenster, was put down in 1912 and the Muenster Oil & Gas Co.'s No. 1 Yostem, just north of Muenster Townsite, was drilled not much later than that. This old hole, by the way, logged several shows of oil and gas, although the value of the log is questioned by many geologists. Two tests drilled northwest and southeast of it failed to "get the grease."

Pipe Lines and Refineries

Two pipe lines now serve the Cooke County fields. Humble Oil & Refining Co. has a 4-inch from the Hooser Pool to Wilson, Okla., and a 2-inch extension to Muenster. Sinclair Oil & Gas Co. is building a 6-inch from Nocona to Bulcher and a 4-inch from there to Muenster. It is about ready to run oil.

Cooke County has two refineries. The Empire plant at Gainesville, the county seat, is a 5,000-bbl. skimming and cracking plant and has 4,000 bbls. cracking capacity. Extensive improvements and additions are being made to it now, involving an expenditure of more than $750,000.

The other refinery is a 400-bbl. skimming plant which has been moved to Main Street in Muenster from Olney in Young County, Texas. It is being built by the Swastika Refining Co., and is expected to be ready in a couple of weeks. Two 1,000-bbl. tanks and three 250-bbl. tanks have been erected, and a 15-cent premium is being paid for oil, practically all of which will be obtained from Ed Ruwaldt's well and some from Stroube & Stroube.

ELLENBURGER LIME DEPTHS IN FEET, BELOW SEA LEVEL

Company, No. Farm, Location—	Depth below sea level
John Hooser, No. 1 Hyman, Bulcher Pool	1,261
McElreath & Suggett, No. 1 Mount, SW of Marysville	766
McElreath & Suggett, No. 1 Cook, SW of Marysville and E of No. 1 Mount	833
Bonner & Green, No. 1 Collum, S of Marysville—Ellenburger not reached at total depth 2,001 ft., or minus 960 ft.	
Sun Oil Co., No. 1 Luderman, SE of Marysville	1,975 ?
Porter & Holmes, No. 1, W of Marysville	1,194
Maer & Staniforth, No. 1 Mitchell, NW of Bulcher Pool—Ellenburger not reached at 2,506 ft. or	1,601
Texhoma O. & R., No. 1 Marshall, E of Marysville—Ellenburger not reached at 2,505 ft. or	1,652
Lynch & Stahl, No. 1 Lueb, NW of Gainesville—Ellenburger not reached at 2,222 ft. or	1,400
Amerada Pet. Corp., No. 1 Walker, NW of Gainesville	1,927
McElreath & Suggett, No. 1 Biffle, SE of Myra	1,307
Tippett & Darnell, No. 1 C. E. Ball, NE of Muenster	690 ?
Benfield, No. 1 Ball, E of Muenster	917 ?
Muenster O. & G. Co., No. 1 Yostem, N of Muenster	1,060
Lynch, Stahl et al, No. 1, in George Ivy Survey	1,192
Skinner, No. 1 Vogel, SW of Muenster	1,130
Harry Hanbury, No. 1 Fette, S of Muenster	1,091
McElreath & Suggett, No. 1, SE of Muenster	1,042
Skinner, No. 1 Brown & Blanton, S of Myra	844
Abernathy, No. 1 Dayton, N of Valley View	1,183
Abernathy, No. 1 Hunt, W of No. 1 Dayton	1,108
Shasta Oil Co., No. 1 E. C. Hair, SE of Valley View	1,097
Shasta Oil Co., No. 1 Dayton, Cooke County sch. land	1,353
Turman & Maxwell, No. 1 Alexander, S line of county	1,309

OKLAHOMA FIELDS

(Continued from Page 54)

the rig out for No. 1 Tiger, SW cor. SE SE Section 35-11-11. Future Development Co. and Schermerhorn Oil Co. have moved the rig out for No. 1 Bruner, C SE NE Section 20-10-9. Wigton & Long and others are building the rig for No. 1 Brown, CNL NE NE Section 20-10-9.

Link Oil Co. and Carter Oil Co.'s No. 1 Hully, SE cor. SW NW Section 29-10-10, is dry and abandoned at 3,977 feet in the Hunton lime topped at 3,877 feet.

Okmulgee County

Le Benne and others have the rig up for No. 2 Bruner, CNL SE SW Section 23-15-12. Jordan & Thompson and others have built the rig for No. 2 Thornburg, C NE NE Section 27-15-12.

B. Morgan's No. 8 Kanard, NW cor. NE Section 13-11-13, is making 500,000 feet of gas from sand at 1,272-94 feet. P. Boyle's No. 1-A Drew, NE cor. SE Section 12-14-14, is dry and abandoned in the Wilcox sand at 2,412-2,508 feet. A. Le Benne and others' No. 5 Lee, CWL SE NE Section 22-15-11, is making 20 bbls. from the Taneha sand after a shot of 20 quarts. Empire Gas & Fuel Co. and others' No. 1 Bright, SE cor. SW NW Section 18-15-12, got the top of the Wilcox sand at 2,732 feet, drilled in to 2,760 feet and was abandoned. White Eagle Oil & Refining Co. and others' No. 1 Bugg, SW cor. SE SE Section 19-14-11, is abandoned at 3,126 feet in the Wilcox sand.

Osage County

Blackwell Oil & Gas Co.'s No. 2, NW cor. SW Section 5-27-11, is spudding. George Parker made location for No. 1, NE cor. NW NW Section 11-26-6. Red Bank Oil Co.'s No. 1, NE cor. NW NE NW Section 29-23-8, an old well, is drilling deeper at 2,700 feet.

The Prairie Oil & Gas Co.'s No. 1, SE cor. SW Section 30-25-8, made 140 bbls. after it was shot in sand at 2,406-28 feet. No. 2, NE cor SW Section 30-25-8, had sand at 2,407-20 feet and is producing 407 bbls. naturally. Phillips Petroleum Co.'s No. 4, SE cor. NE SW Section 17-27-6, Burbank Pool, made 386 bbls. in 22 hours after it was shot with 140 quarts in the Burbank sand at 2,902-57 feet. No. 8, SE cor. NE SE Section 20-27-6, is dry at 2,978 feet. Skelly Oil Co.'s No. 7, NW cor. SW Section 27-27-6, had the burbank sand at 2,925 feet to 2,988 feet, made 400 bbls. naturally and 1,000 bbls. after it was shot. Osage Gas Producing Co.'s No. 378, NW cor. SE NW Section 5-27-11, came in for 1,500,000 feet of gas in the lime at 1,810-46 feet. Petroleum Drilling Co.'s No. 21, SE cor. NW NW Section 25-26-8, had the Layton sand at 1,171-95 feet, drilled to 1,200 feet and completed for 1,000,000 feet of gas. Phillips Petroleum Co.'s No. 1, NE cor. NW NE Section 23-26-10, is dry and abandoned at 1,891 feet. The Texas Company's No. 6, SE cor. SW SE Section 19-25-8, swabbed 95 bbls. after the Bartlesville sand at 2,275-95 feet was shot with 80 quarts. Mid-Kansas Oil Co.'s No. 1, SE cor. NE Section 18-24-6, drilled through the Bartlesville and Burgess sands and was abandoned at 2,890 feet in the top of the lime. Devonian Oil Co.'s No. 1, SW cor. NE Section 26-24-6, is a dry hole at 3,245 feet in sandy shale. Dunnagan and others' No. 4 was deepened to 2,543 feet and made 2 bbls. after being plugged back to 2,180 feet.

Payne County

Gardner Petroleum Co.'s No. 1 Montgomery, SE cor. NE SW Section 30-19-2, had water in the Wilcox sand at 4,802-18 feet and was abandoned. New England Oil & Pipe Line Co.'s No. 5 Broyles, SE cor. NW NW Section 26-18-4, was drilled to 3,952 feet and plugged back to sand at 3,846-58 feet where it produced 50 bbls. Sherry & Wrightsman's No. 1 Hays, SE cor. NE SE Section 21-17-4, encountered water in the Wilcox sand at 4,482-87 feet and has been abandoned.

Pontotoc County

W. R. Ramsey is erecting the rig for No. 1 Shipley, NW cor. NE SW Section 21-5-8. Homaokla Oil Co.'s No. 1 Milner, SW cor. NW SW Section 16-5-8, was completed for 562 bbls. in sand at 2,498-2,506 feet.

Pottawatomie County

Barnsdall Oil Co. has dug the cellar for No. 3 Hooley, NW cor. SE Section 4-9-5, Earlsboro Pool. Gypsy Oil Co. is putting up the rig for No. 4 McFarland, NE cor. SW SW Section 9-9-5. Superior Oil Co. made location for No. 1 Jones, SE cor. NW NE Section 24-8-2. Atlantic Oil Producing Co. and others made location for No. 1 Duff, SE cor. SW SW Section 10-7-4, Pearson Field. Carter Oil Co. has the rig on the ground for No. 1 Davis, SW cor. SE SE Section 19-7-4.

Phillips Petroleum Co.'s No. 6 Gram, NW cor. SE Section 9-9-5, Earlsboro Pool made an initial of 900 bbls. from the Wilcox sand at 4,354-66 feet. Independent Oil & Gas Co. and Darby Petroleum Co.'s No. 1 Simpkins, SW cor. NW Section 14-7-4, Pearson Pool, has been completed for 200 bbls. in the Hunton lime at 3,639-3,730 feet. No. 1 Piller, NE cor. SE NE Section 15-7-4, topped the Hunton lime at 3,646 feet, drilled to 3,650 feet and made 225 bbls. Mid-Continent Petroleum Corp.'s No. 1 Doyle, SW cor. SE SW Section 19-7-4, made a maximum of 1,820 bbls. from the Hunton lime at 3,798-44 feet. Pure Oil Co.'s No. 1 Doyle, NE cor. NW NW, Section 30-7-4, flowed 479 bbls. from the Hunton at 3,780-58 feet.

Seminole County

Empire Gas & Fuel Co. made location for No. 2 Edmunson, SW cor. SE SW Section 3-9-5, Earlsboro Pool. Location was made for No. 3 Edmundson, NW cor. SE SW Section 3-9-5, also location for No. 4 Edmundson, SW cor. NE SW Section 3,9-5. Magnolia Petroleum Co. made location for No. 3 Edmundson, SE cor. SW SW, also for No. 4 Edmundson, NE cor. SW SW Section 3-9-5. Barnsdall Oil Co. has the rig on the ground for No. 2 Brown, NW cor. NE NW Section 10-9-5, also for No. 3 Brown, SW cor. NE NW, and No. 4 Brown, SE cor. NE NW of the same section. Gypsy Oil Co. has rig on the ground for No. 2 Bruner, SW cor. NW NE; No. 3 Bruner, NE cor. NW NE, and No. 4 Bruner, SE cor. NW NE Section 10-9-5.

Independent Oil & Gas Co. has moved out rigs for No. 3 Bruner, NE cor. SW NE, and No. 4 Bruner, NW cor. SW NE Section 10-9-5. Rigs are also on the ground for No. 1 Sullivan, NE cor. SE NE, and No. 2 Sullivan, NW cor. SE NE Section 10-9-8.

Magnolia Petroleum Co. is building the rig for No. 8 Sparks, SE cor. SW SW Section 11-9-5. Amerada Petroleum Corp. has moved the rig out for No. 1 Strothers, SW cor. NW NE Section 3-9-6, Seminole Pool. Carter Oil Co. made location for No. 1 E. Davis, NW cor. SE NE Section 3-9-6. Location was also made for No. 2 Mandler, NW cor. SW Section 3-9-6, Searight Pool. Sinclair Oil & Gas Co. has made the cellar for No. 4 Polly, SW cor. NW Section 3-9-6. Amerada Petroleum Corp. has the rig on the ground for No. 1 Grisso, NE cor. SE Section 4-9-6. Carter Oil Co. moved the rig to the location for No. 7 Davis, SE cor. NE Section 4-9-6. Gypsy Oil Co. has the rig at the location for No. 3 Cudjo, SE cor. SW NE Section 4-9-6. Empire Gas & Fuel Co. has the rig on the ground for No. 3 Gross, NW cor. SW SE Section 25-9-6. The rig is being built for No. 4 Gross, SW cor. NW SE Section 25-9-6, Seminole Pool.

Tidal Oil Co. has the rig out for No. 3 D. Harjo, SE cor. NE SW, Section 25-9-6. Gypsy Oil Co. made location for No. 1 July, NW cor. NE NW, and for No. 2 July, SW cor. NE NW Section 36-9-6. The rig is being built for No. 1 Johnson, SE cor. SW NW Section 28-9-7. Mid-Continent Petroleum Corp. is rigging up No. 3 Cully, NE cor. SW Section 7-9-8. No. 2 Baker, SE cor. SW SE Section 10-8-6, Bowlegs Pool, is being deepened and now drilling at 4,010 feet. Tidal Oil Co.'s No. 1 Harjoche, SE cor. NE SW Section 10-8-6, which is being drilled deeper, is cleaning out at 4,019 feet. Indian Territory Illuminating Oil Co. dug the cellar for No. 1 Dugan, SE cor. SW SE Section 35-8-6. The Prairie Oil & Gas Co. is building the rig for No. 1 Wilson, SW cor. NE NE Section 3-9-6. The rig is being moved in for No. 2 Jones, SW cor. NW SE Section 11-8-6.

Continental Oil Co.'s No. 12 Pierce, SW cor. NW SE Section 33-11-8, Cromwell Pool, made 225 bbls. after a shot in the Wilcox sand at 4,114-80 feet. Wilcox Oil & Gas Co.'s No. 9 Bruner, SE cor. SW Section 15-10-8, is dry and abandoned at 4,223 feet in the Wilcox sand. Empire Gas & Fuel Co.'s No. 1 Edmundson, SE cor. SW Section 3-9-5, flowed an initial of 11,002 bbls. from the Wilcox sand at 4,255-61 feet. Magnolia Petroleum Co.'s No. 3 Lena, SW cor. SE Section 10-9-5, had an initial production of 3,120 bbls. from the Wilcox sand at 4,296-4,300 feet. No. 4 Simpson flowed 4,542 bbls. from the Wilcox sand at 4,340-46

(Continued on Page 129)

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Prices Steady to Strong in Chicago

Little More Activity in Gasoline Spot Market But Big Demand to Replenish Stocks Has Not Developed as Yet

By John B. Waldo

CHICAGO, Ill., June 27.—There were no new developments in market conditions here today. Prices were steady to strong for all products, kerosene showing the least strength but no change in price. There was a little more activity in the spot market for gasoline and some inquiry for cars in transit, but nothing to show that any number of dealers were finding it necessary to replenish their stocks for the coming holiday. U. S. Motor gasoline was quoted at 6¾ cents. The higher gravities were very quiet and a real buyer might have secured some concessions but there were no quantity buyers. There is very general complaint that the weather, though bright, has been too cool for night driving.

The gas and fuel oil market was strong but there was no large demand at hand although there were some inquiries for contracts for periods but the difficulty is to be able to furnish either a gas or fuel oil at the price at which the buyer has placed his idea of the price he is willing to pay. Several oil companies announce that they will close their offices from Friday night until following Tuesday.

Market Unchanged

To discover any real change in the gasoline market during last week would have required a magnifying glass of high power. Early in the week, the weather was warm though rain fell at times and some days there was a little more demand for gasoline than there had been, with some urgency in shipping demanded and inquiry for cars in transit but the next day failed of a continuance of the improved buying. There was no real change, possibly a little anticipation of the coming holiday but not much of that. Some say they really sold more gasoline last week in the spot market than during the week previous while others say that their records show no improvement in the quantity thus sold. Shipments on contract have been generally pretty fair although there has been some hesitation at times and from parts of the territory to give shipping instructions for the full June purchases on contract. It would be surprising if this were not the case for the use of the motor car and the consumption of gasoline have been restricted in many parts of the territory by the high water and bad roads.

The prices in this market and the nature of the demand have shown no change. The ruling price is still 6¾ cents and the bulk of the demand for the U. S. Motor grade. Occasionally some of the old-timers in the jobbing business ask for the 56-58 450 endpoint grade which was the staple article at this time of the year up to two seasons back. The very contracts formerly provided that the refiner might begin shipping the lower gravity April 1 and continue to October 1. But in those days the price was higher and the difference in cost was worth saving.

Export Demand Lacking

The special or antiknock gasolines are taking the place of the higher gravities and the narrow spread between them indicates the little demand for the latter. The export demand that has in other years strengthened the price of these higher gravities is lacking this season and while there is some business doing for export it is small and the prices at which it is done are very narrow and show little if any profit. There are some who believe that July will show a larger business and a better price. The larger business is more certain than the better price for the refiners are ready to supply practically unlimited quantities of gasoline at the present market judging from their recent activities. The Ohio situation is more disturbed than ever. Late last week the Standard Oil Co. of Ohio was reported to be offering U. S. Motor gasoline over July at a price that figured 6.05 cents, Group 3, and later the Atlantic Refining Co. made its price for July on a parity with 6 cents, Group 3. These were not spot prices but for July delivery. There has been an occasional sale reported here of gasoline from other than Group 3 refiners at 6½ cents and one salesman stated that he saw an invoice of 6¼ cents. The product is a cracked gasoline with the gravity and endpoint of U. S. Motor gasoline but not the real distillation curve but it passes and gives satisfaction. An occasional car has also been dropped off that apparently started from the far south with a Michigan destination but was diverted. But the total of these cars was hardly large enough to make an exception to the rule of one price for U. S. Motor gasoline and that 6¾ cents which is the price quoted direct to dealers in the country by refiners as well as the price of the marketer in this city, who has been able to pick up a little gasoline in a gradually increasing quantity for resale at 6½ cents. Natural gasoline has been in limited demand and easy as to tone.

The Credit Situation

The credit situation with country dealers is becoming more recognized as a real factor under present conditions and although the crop situation is showing some improvement it will be some time, perhaps not until another crop has been made, before the farmer as a class will be in better shape financially. Some of the oil companies, at least a few, have done this, have made arrangements with the banks for an extension of credit to their customers in a sort of a joint loan and the buyer is to pay an additional half cent for his gasoline and lubricating oils to care for the expenses of extending this credit. Naturally such an arrangement when made in good faith and adhered to by all concerned does not encourage lavish use of petroleum products but it does provide for the necessary supplies and enables the distributor to pay cash for his merchandise while extending a certain amount of credit to his customers.

Kerosene is still very quiet and the demand which it was hoped might come late is evidently passed for the season. Dealers are only buying in small quantities for their normal needs and there has been no unusual buying by the larger distributing organizations. Some of the high gravity Pennsylvania gasoline is being sold for delivery at some of the Michigan points at 8¼ cents delivered and in quantities a little lower price would be made for immediate instructions. The market here is 4⅛ to 4¼ cents with some refiners holding for 4⅜ cents but selling only to regular customers. The trade expects to see a 4-cent market shortly and occasional sales were reported at that price last week.

Distillates

There is really nothing new in distillates. There is a steady flow of inquiries regarding next season's contracts and some have been made. One large contract was written at 4 cents for a 38-40 straw distillate. The buyer is a very large distributor and the million gallons bought will be but a part of their contracts. This is below the ideas of refiners as to the price for distillates over the coming winter. Their range is between 4½ and 5 cents, judging by the contracts that have been offered the regular customers of refining organizations. This range of price would be for a 38-40 straw distillate with a flash of 170 degrees or better, clean and sweet in odor. Distillates equally good for most burners but not meeting the requirements of those that must have a specially low flash, range at one-half cent less in price. There is very little buying for storage and the sales in the spot market are for occasional cars only. The spot price is steady at 3¼ to 3⅜ cents for a good 38-40 straw distillate.

Gas Oil

Gas oil is firmly held at the high point of recent prices. The demand is about equal to the offerings and if there are any accumulated stocks as has been asserted by some of the buyers, they are not being pressed for sale. Any desirable oil that meets the U. G. I. specifications is quickly taken by the gas companies at 2½ cents who seem to be ready to store oil at that price and when they cannot get it at that price they draw from stocks on hand. Those concerns that carry small stocks are the more ready buyers but they are working hard to get bargains when they place their orders. Some of the industrial users are apparently willing to consider increasing their stocks but will place no large business until next month. There is very little gas oil being offered from north Texas or Louisiana as the demand from the South is taking most of the oil at present. Much of our straw gas oil comes from that part of the industry. The Louisiana refiners are at present asking 3½ cents for their straw gas oil. The active demand for furnace oil is not yet important although there are some contracts closed and others being arranged but it is a little early for some of the larger distributors to place their contracts and they say that they have gained nothing in recent years by placing early orders. As a rule refiners are reluctant to name a price for over the season.

Fuel Oil

Regarding the fuel oil market, a large buyer said last week that prices seemed to be as near the bottom as he ever knew them. He explained by stating that usually the buyer of a large quantity could find some refiner who would make a lower price than the quoted market but that right now this was a very difficult thing to do. The other side to the story of the present market conditions is shown by the remark that another buyer made when he was trying to induce the salesman to cut 2½ cents a barrel off the price of the fuel oil. "You never used to haggle like that for $5 a car," said the salesman. "You would haggle worse than I do if your business was as rotten as ours," said the buyer. "That $5 a car may mean the difference between a profit and a loss in our manufacturing costs." There is a good deal of complaint regarding the volume of business but it is as nothing when compared with the wail over small profits in many lines of industry. The steel companies are completing old orders more rapidly than they are securing new ones. The auto industry is finding that weather and road conditions are slowing up the sale of cars and are reducing their working schedules. Building is not so great in volume as it was and some of the large building projects are finding it difficult to finance the completion of the plan. There is a sort of seasonable slowing down at an unseasonable period of the year. Some believe that while July may be a rather quiet month for general business, August will see a great improvement. The fuel oil market shows these conditions which are increased in a way by the efforts of some refiners to force direct contracts and sales.

There is too much competition for any seller to be too sure of his own importance to the buyer. Here is an example of how it works. The buyer for an industrial plant which uses about 200 cars a year is in the market for a yearly contract. The lowest price so far is $1.10 a barrel. The only real specification is that it must be refinery fuel oil and suited to the plant of the purchaser. A clean 14-16 oil would answer. The buyer will not contract at more than $1 a barrel and until he has that price will buy in the spot market. He has bought some oil in 5 and 10-car lots at a range of prices from 85 to 90 cents and the seller probably believes that he has made a friend of the buyer and is sure of his business but the buyer believes that as he has been able to buy in 5-car lots at 90 cents and less he should be able to buy in 200-car lots at considerably less than 90 cents. He will probably play in the spot market for a while and his luck may be with him but the chances are that he will find that he is having a lot of trouble and maybe paying more than he could have contracted at and rush to cover. There are a lot of buyers doing that thing in the market today and several of them are large buyers. They really do not know what they will need and some of them could not make a contract at any price today.

There is a good volume of fuel oil moving on contracts and to regular customers but the demand for the surplus above that quantity is not active and the demand for orders is very lively so that prices are cut so close to cost that there can be little profit in the business. Some of the sales of fuel oil made at recently named low prices have not been filled. One order was taken at just a little above 80 cents for 30 cars. Two have been delivered. The seller is waiting for the price to come down so that he can get out whole. The buyer is getting ugly and says that by all that is holy he is going to make the seller deliver or get damages through the courts. There is less of this short selling and failing to deliver than there was but there is some of it going on and it would be a good thing for the industry, if every buyer would make every seller deliver what he sold as agreed. There is the other side where the buyer fails to take in the oil ordered because of a decline in the market and he too should be made to stand by his contract.

Lub Oils

Lubricating oils are very quiet. There is little new placing of new orders but deliveries on contracts and on orders previously placed are fairly good. Prices are unchanged here. The industrial demand is a little slow right now. Refiners' representatives in several instances report a good business on bright stocks and neutrals in some cases being behind on shipments but these are usually car lot shipments to bulk plants or in one case for export.

Tank Wagon Situation

The tank wagon situation is unchanged. There has been no general reduction in prices and at the same time there is about as much sporadic price cutting as there has been. Prices are returned to normal at one place to be cut freshly at another. Possibly as the gallonage increases there will be less price cutting for in most cases where prices are cut the more gasoline sold the greater the loss. The reports as to gallonage are generally that a fair to good business is being done right along wherever the conditions permit the free use of the cars. Illinois is to have a gasoline tax of 2 cents August 1, this will do away with some of the price cutting that has been going on along its borders of the state. It will also prevent the building of some of the stations planned for strategic crossings if the bill failed of passage. The situation at Gary, Hammond and East Chicago will be restored to normal by this tax on gasoline sold in Illinois.

The coming Monday is the Fourth of

July and as it comes on Monday it will permit of much touring as by leaving on Saturday morning or Friday night, it gives a good three days on the road. As there has been comparatively little touring in the North this season, the public is likely to make the most of it although as a rule the more experienced tourists stay at home on such occasions as the roads nearly everywhere are crowded. The trade rather hopes that the occasion will start the summer demand with something like a record breaker in the way of gasoline consumption but being a little superstitious they are not saying too much about it.

MID-KANSAS OIL CO. FORMS NEW DIVISION

SHREVEPORT, La., June 27.—Establishment of a new division of the Mid-Kansas Oil & Gas Co. of Tulsa with 42 counties of East Texas under its jurisdiction and having headquarters in Shreveport has been made known here. Formerly all Texas operations have been handled out of Tulsa offices. Now the eastern division will be handled out of Shreveport, where divisional offices of the Ohio Oil Co., the parent organization, are maintained.

In connection with this move, Charles Johnson has been transferred here from Ohio to have charge of land work in East Texas, while L. L. Prock, local scout, but now doing special work in Arkansas, will represent the Mid-Kansas as scout in East Texas, having headquarters at Tyler. Two geologists, Stewart Mosson and R. E. Copeland, also will be part of the Mid-Kansas force in this division.

PENNSYLVANIA MARKET WAS FIRM DURING WEEK

OIL CITY, Pa., June 25. — Gasoline and naphtha were firm during the past week with good shipments in the Pennsylvania refined district. Actual consumption of motor fuel is enormous in this section at the present time. The weather until the past few days has been a trifle cool, but the automobiles have been out in large numbers and touring is beginning to get under way. Neutrals continue in good demand.

There was not any change in the condition of kerosene or cylinder stocks. Wax continued to hold firm, with prices unchanged. Fuel oil was a trifle improved during the week. Bright stock was firm.

MARKETING ECONOMY SHELL HEAD'S IDEA

Overproduction of oil has not reached the peak, but real competition is finding the most economical way of reaching the consumer, Lord Bearsted, chairman of the Shell Transport & Trading Co., told stockholders at the annual meeting in London.

"Our production in 1926 was 15,336,000 tons, against 13,927,000 tons in 1925," he said, "of which Venezuela produced 3,122,000, against 1,643,000. Production in Egypt and Trinidad was unchanged. Exploration in Argentina has been continued, but we can not yet say whether that field will develop into a commercial proposition. Sarawak production was 711,000 tons, up 100,000. Dutch East Indies decreased slightly, but a test well at Aroe Bay is producing 190 tons daily, and there is no cause for anxiety over the future of this field. Our shipping resources of 1,646,696 tons capacity carried 12,859,000 tons of cargo last year. The older ships are being replaced by those equipped with Diesel engines."

GAS MEN VISIT PANHANDLE

Christy Payne, a director of the Standard Oil Co. of New Jersey and president of the Hope Natural Gas Co. and the Peoples Natural Gas Co., with Ralph W. Gallagher of Cleveland, president of the East Ohio Gas Co., have been in Texas looking over the natural gas area of the Panhandle Field. They were guests of Nelson K. Moody, president of the Prairie Oil & Gas Co.

GASOLINE CONSUMPTION GREATER IN EAST; COMPETITION IS KEEN

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 25.—A marked improvement in consumption of gasoline added somewhat to the feeling prevalent in many quarters that prices are now at bottom on the Atlantic Seaboard. It is said here that offerings of Mid-Continent gasoline in this market have shown a marked decline during the past three weeks. In many respects appearances indicate a possible improvement in the gasoline price situation within the next few weeks.

Competition in the retail situation is still keen, as evidenced by a further drop in tank wagon prices here and there. Although nominally 19 cents a gallon, gasoline is being sold quite generally in New York City and vicinity for 16 cents. Many refiners that had been selling at 17 cents reduced the price a cent during the past week.

An instance of competition is found in a case where a certain eastern refining company offered to reconstruct a garage free of charge to provide for a drive-in arrangement in return for an exclusive contract to supply the gasoline. This will mean a switch from one brand of gasoline to another, but the arrangement is considered so advantageous by the garage owner that he has accepted it. It is said that a refiner selling to the tank wagon trade will do almost anything within business reason to secure good locations as a direct outlet for their production.

In stating that there is possibility of improvement in the gasoline price situation, it must be pointed out that chances for the better are considerably lessened so long as the leading refiners are maneouvering to get hold of direct service station outlets. Until this intense effort on the part of refiners ceases when they have intrenched themselves sufficiently in the retail business, any extensive increase in prices is considered out of the question.

Kerosene Unchanged

The eastern kerosene market is unchanged, with demand fair and stocks still too large to indicate early improvement. Prices are holding at current levels, largely because refiners anticipate a large demand for furnace oil in the fall and do not want to be caught short of the material.

Furnace Oil

There is every indication that the leading refiners in the East are preparing for a record demand for furnace oil this coming fall and winter. The oil-burner manufacturers are understood to have made rapid strides in perfecting equipment for home-burner installations and as a result are prepared to "sell" the idea of home oil burning on a scale never before achieved. There are now so many apparently efficient oil burners being pushed through advertising that the public generally is being educated to accept the idea as permanent and established, as opposed to the hesitancy displayed by many prospective users up to now.

Although the oil refining companies themselves are doing some work in this connection, the bulk of the advertising is being done by the burner manufacturers; but the oil companies will find it as important to be ready to give good service as to supplying the fuel for the burners, and they generally appreciate that in the near future will come the test of putting the oil burner on a sound and permanent basis.

The various oil burners now on the market use a fuel oil or kerosene ranging from 27 to 44 gravity. The refiners are therefore not disposed to force the sale of these fractions pending the season for home heating, which runs from late September to late March.

Gas Oil

The gas oil market is dull. Prices are somewhat unsteady as a result of heavy production. Refiners are asking 5½ cents for tank car lots.

Fuel Oil

The demand for Diesel oil is heavy. Bunker fuel oil is moving briskly but refiners are well stocked with both products, as a result of heavy receipts from both Mexico and California.

Lubricating Oils

Lubricating oils have quieted down. Concessions made by western refiners have not yet been met by eastern factors. In some quarters further reductions are expected in certain grades of red and pale oils.

Paraffin Wax

The wax market continues dull. Prices are generally unchanged. There is no present indication of improvement. The price differential between crude and refined wax is said to be narrowing somewhat as a result of improved demand for crude wax as compared with refined.

Petrolatum

Petrolatum prices are unchanged. Demand is fair. It is said in the trade that the supply situation is much improved, in that stocks on hand have been reduced, and for this reason marked improvement in prices is looked for before long.

Export Market

Export prices are unchanged but firm. The demand for bulk gasoline and kerosene is more steady. More activity is noted in the lubricating oil division. Paraffin wax continues in fair demand with the best record displayed by crude scale wax. Much of the recent depression in refined wax is attributed to reduced purchases by Spanish and Italian buyers. Italy is getting more refined wax from European refineries, while Spain is buying crude wax and refining it at home.

More than 1,400 tons of petroleum asphalt were exported from New York during the past week, continuing the favorable showing of the last few months.

Petroleum Exports

The following table shows principal exports of petroleum and petroleum products from New York during the last three weeks (all figures in gallons unless otherwise noted):

	Week Ended		
Gasoline—	June 22	June 15	June 8
Bulk	3,195,600	.....	2,515,000
Cases	906,090	703,990	645,700
Kerosene—			
Bulk	3,437,590	.....	1,194,700
Cases	516,740	2,768,500	565,930
Fuel oil—			
Bulk	.....	.....	904,772
Lubricating oil—			
Bulk	.....	.....	2,697,190
Barrels	1,202,100	644,300	1,142,350
Cases	130,270	179,400	95,980
Lubricating grease—			
Bbls. (lbs.)	356,850	1,257,750	181,925
Paraffin wax—			
Bags (lbs.)	418,000	330,000	308,000
Bbls. (lbs.)	686,000	.....	408,025
Petroleum asphalt—			
Bbls. (tons)	1,411	575	10,644

The foregoing figures include all shipments of 500 bbls., 1,000 cases or more.

Oil Tanker Market

The tanker market is increasingly active and rates are somewhat lower than a week ago. The following new fixtures are reported:

Tanker Darden, July loading, 28 cents, Tampico to Jacksonville.

Tanker Albert E. Watts, 5,111 tons net, 80,000 bbls. crude, Tampico to New York, 38 cents a barrel.

Tanker Scottish Minstrel, 27s. 6d., July loading, Gulf Coast to United Kingdom-Continent.

Tanker Agwisun, 70,000 bbls. fuel oil, San Pedro to north of Hatteras, 93 cents. (Last previous reported fixture in this trade was at $1.03.)

Tanker Meton, 6,000 tons, kerosene, Batum to United Kingdom-Continent, June loading, 27s. 6d.

Tanker Aral, 3,500 tons clean, June loading, Constanza to United Kingdom-Continent, 30s. and 31s. 6d., two ports, July loading.

Tanker Oljaren, 7,000 tons, September loading, Batum to French Atlantic, 32s.

Oil Receipts Large

Receipts of crude and refined oil at Atlantic Coast ports during the week ended June 22 totaled 4,218,000 bbls., a daily average of 603,000, compared with 3,559,000 bbls., or 508,000 bbls. daily, for the week ended June 15.

The feature was heavy receipts of California oil, amounting to 1,096,000 bbls. for the week, a daily average of 157,000 bbls. Imports were fairly large, amounting to 698,000 bbls., or 100,000 bbls. daily. Mexico accounted for 81,000 bbls. daily and South America 19,000 bbls. daily.

Petroleum Receipts

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Week Ended		
	June 22	June 15	June 8
Gulf Coast	346,000	358,000	392,000
Pacific Coast	157,000	67,000	183,000
Mexico	81,000	51,000	91,000
South America	19,000	33,000	76,000
Total	603,000	509,000	742,000

Daily Averages by Months	Gulf	Pacific	Mex.	S. Am.	Total
1927—					
May	332,000	58,000	91,000	53,000	534,000
April	388,000	93,000	69,000	61,000	611,000
March	345,000	103,000	36,000	81,000	565,000
Feb.	379,000	89,000	40,000	48,000	556,000
Jan.	362,000	73,000	49,000	61,000	545,000
1926—					
Dec.	363,000	57,000	49,000	61,000	530,000
Nov.	335,000	62,000	56,000	40,000	493,000
Oct.	270,000	71,000	61,000	43,000	445,000
Sept.	299,000	98,000	63,000	58,000	518,000
Aug.	320,000	61,000	71,000	46,000	498,000
July	360,000	66,000	115,000	36,000	577,000
June	396,000	104,000	117,000	18,000	635,000

The foregoing figures are based on the carrying capacity of incoming oil-laden tankers.

TEN TIMES AS MUCH GASOLINE IN JAPAN

WASHINGTON, D. C., June 25.—Japan's importation of gasoline in 1926 is estimated at 29,192,000 gallons, more than 10 times as much as the 2,758,000 gallons imported in 1918, according to a report to the Department of Commerce. This increase in gasoline importation is directly due to the growing use of automobiles in Japan, the number having increased from 13,000 in 1922 to more than 44,000 in 1926. It is also believed due partly to the greater use of internal combustion engines in industry and agriculture.

Gasoline consumption is not taxed either nationally or locally in Japan.

KANSAS FIELDS

(Continued from Page 54)

Section 36-23-11. The Prairie Oil & Gas Co.'s No. 1 Ott, SW cor. NE, Section 24-23-12, is dry at 1,740 feet. Mid-Kansas Oil Co.'s No. 2 Hoffman, SE cor. SW SW, Section 24-25-8, topped the lime at 2,583 feet, drilled to 2,633 feet and was plugged back to 2,496 feet and abandoned. Henderson & Holdren's No. 2 Turpen, SW cor. NW NE, Section 28-26-9, was completed for 1,500,000 feet of gas in sand 951-61 feet.

Harvey County

Kansas Central Oil Co.'s No. 1 Sowder, SW cor. NW, Section 3-23-1e, is dry and abandoned at 3,457 feet.

Marion County

Harwood, Winters and others' No. 1 Cowman, NW cor. SW NW, Section 12-17-4 in the Lost Springs Pool, is dry and abandoned in sand 2,565-2,602 feet. The Prairie Oil & Gas Co.'s No. 1 Mowrer, SE cor. NE, Section 21-17-4, is producing 800 bbls. from sand 2,375-2,422 feet.

Rice County

The Prairie O. & G. Co.'s No. 3 Miller "A", NW cor. SW, Section 35-20-6w, is producing 35 bbls. from sand 3,394-3,494 feet.

Sumner County

Roxana Petroleum Corp. made location for No. 3 Sleigh, NE cor. NW SW, Section 25-31-2e. Jones and others have the machine on the ground for No. 1 Looker, SW cor., Lot 2, Block 23, Oxford townsite, Section 11-32-2e. Moore and others' No. 1 Hunter, Lot 7, Block 72, Oxford townsite, Section 14-32-2e, is drilling at 350 feet. Sharp and others made location for No. 1 Oxford townsite SE cor., Lot 16, Block 40, Section 14-32-2.

Woodson County

Pure Oil Co. has a machine on the ground for No. 1 Otto, NE cor. NW NW, Section 21-23-14.

Wax Stocks Continue to Increase

Constant Excess of Supply Over Demand Since Late in 1925 Responsible for Present Low Prices in All Sections

By C. O. Willson

With stocks near the peak of the past 10 years and current output continuing to exceed the demand, manufacturers of petroleum wax in the United States have been confronted with a serious price break in their product. Present quotations are near the low level of the past five years with no assurance at this time that quotations will not go lower.

The slump in wax prices cannot be said to be a reflection of the present general depression in the oil business in which crude oil and the most important refined products quotations have steadily declined. A study of past developments in the paraffin market show that its "ups and downs" usually have been independent of the general trend of petroleum markets.

This fact is shown in Table 2. Wax prices were exceptionally low in 1922 but started to improve in 1923. This price improvement continued through 1925 despite the fact that during this period crude oil quotations were exceptionally low. In 1926 when crude oil prices averaged higher than any 12-month period for several years, wax prices started to decline so that average quotations during 1926 were lower than in 1925.

The peculiar position of the paraffin wax market is due primarily to its method of manufacture. Wax is essentially a by-product in the art of petroleum refining. It is produced concurrently with one type of lubricating oil which in turn is more independent of the price of crude oil than other refined products such as gasoline, kerosene and fuel oils.

Wax a By-Product

Most readers are aware that the wax is removed from cracked wax distillate in order to secure a lub stock of suitable specifications for further refining. In other words the presence of wax is objectionable in lub oil manufacture and its removal is necessary regardless of market conditions.

After it has been removed from the distillate by a chilling and pressing process, the so-called sweating operation is all that is needed to secure a finished crystalline wax suitable for the various demands. This sweating process is relatively simple and inexpensive and except under very unusual manufacturing or market conditions it is the logical method of disposing of the material. The wax can be blended and used as fuel oil and can also be utilized as charging stock for cracking units in the light oil department of a refinery. However it is not a particularly desirable product for either of these uses with the additional objection that it is in competition with the lowest priced fractions secured in the refining of crude oil. Due to this fact it is the general practice in refinery operations to make a finished wax from all the material available from the processing of lubricating oils.

This situation obviously means that about the only means of limiting the output of wax lies in the control of the manufacture of lubricants. Fortunately, as shown by government reports, it has not been necessary to increase the output of wax as fast as the increase in the demand for lubricants. The perfection of manufacturing methods by which lubricants are secured from the so-called asphaltic base crudes and from which no wax is obtained has tended to retard the increase in wax production. If the manufacture of lubricants was confined to the paraffin base crudes as was once the case the situation in regard to an oversupply of wax would no doubt have been much more acute than it is at the present time.

TABLE 1—SUPPLY AND DEMAND
(Thousands of pounds)

Year	Production	Imports	Exports	Domestic Demand	Stocks End of Year
1922	462,003	7,447	284,501	187,621	204,891
1923	466,647	12,843	329,793	189,830	164,758
1924	516,491	12,867	382,820	221,590	89,706
1925	590,577	14,588	334,179	244,301	116,391
1926	645,790	10,005	334,519	252,336	185,331
*1927	204,038	4,923	106,477	76,796	211,019

*First four months. All data based on Bureau of Mines reports.

TABLE 2—*WAX PRICES
(Cents per pound)

	1922	1923	1924	1925	1926	1927
124-126 Wax Oklahoma	2.12	2.54	4.46	5.16	4.71	3.35
120-122 Wax New York	2.9	3.25	5.26	6.12	5.86	4.69

*Average prices based on weekly quotations of The Oil and Gas Journal. Up to June 23.

What Data Show

Table 1, based on Bureau of Mines reports, gives the data covering the production and consumption of wax since 1922. When these data are compared with those given in Table 2 it will be seen that like all petroleum products there is a very close relationship between supply and demand and the prices received by the manufacturer.

With the production of wax difficult to control as has just been explained it has been necessary for the relatively few refinery operators who refine wax to concentrate their attention on enlarging the market for their product in order to maintain an equilibrium between supply and demand which would assure satisfactory market prices.

Table 1 shows that they have not always been able to create a demand in line with the supply and Table 2 reflects the fact that low prices always accompany this condition. The whole story in regard to wax demand and supply is reflected in the accompanying chart showing the changes in wax stocks starting January 1, 1922. If a price curve based on Table 2 was plotted along with the stock curve it would show that as the stocks increased the price dropped and vice versa.

Wax stocks at the end of each year previous to 1922 were as follows: 1921, 207,563,000 pounds; 1920, 195,368,000 pounds; 1919, 222,462,000 pounds; 1918, 199,658,000 pounds. The production figures previous to 1922 were: 1921, 434,884,000 pounds; 1920, 541,204,000 pounds; 1919, 467,235,000 pounds; 1918, 505,144,000 pounds; 1917, 481,200,000 pounds. Wax prices during the war and for three years after the close were low when compared to the prices which prevailed later. Prices slumped late in 1920 and in 1921.

Stocks and Prices

Starting about the middle of 1922, wax stocks began to decrease. This decrease as shown in Table 1 was due mainly to a large increase in the demand both export and domestic. This excess of demand over supply continued for a period of three years reducing the stocks from a high of over 240,000,000 pounds in May of 1922, to a low of 89,706,000 pounds at the end of 1924.

Prices advanced rapidly with the decrease of stocks. The average prices in Oklahoma during 1924 was practically double the average for 1922. Although stocks started to advance again early in 1925 the price momentum which got under way in 1923 and 1924 was not stopped until later in the year so that the average prices for 1925 were even higher than in 1924.

Stocks advanced rapidly in 1926 and this situation was reflected in prices. This advance continued until May, 1927, the latest available total figure on stocks. The decline in prices was steady through 1926 but was speeded up early this year when several refiners realized that there was to be no immediate improvement in the situation and dumped some of their storage on the market.

Consuming Markets

Due to the fact that wax is utilized by so many industries it is exceedingly difficult to make any estimate as to the probable future market. In regard to the effect of prices on consumption one refiner who has made a study of the wax market over a period of several years claims that the prices have a greater effect on the export demand than the domestic demand. This refiner claims that the high prices prevailing during 1924 and 1925 caused a slump in the export demand.

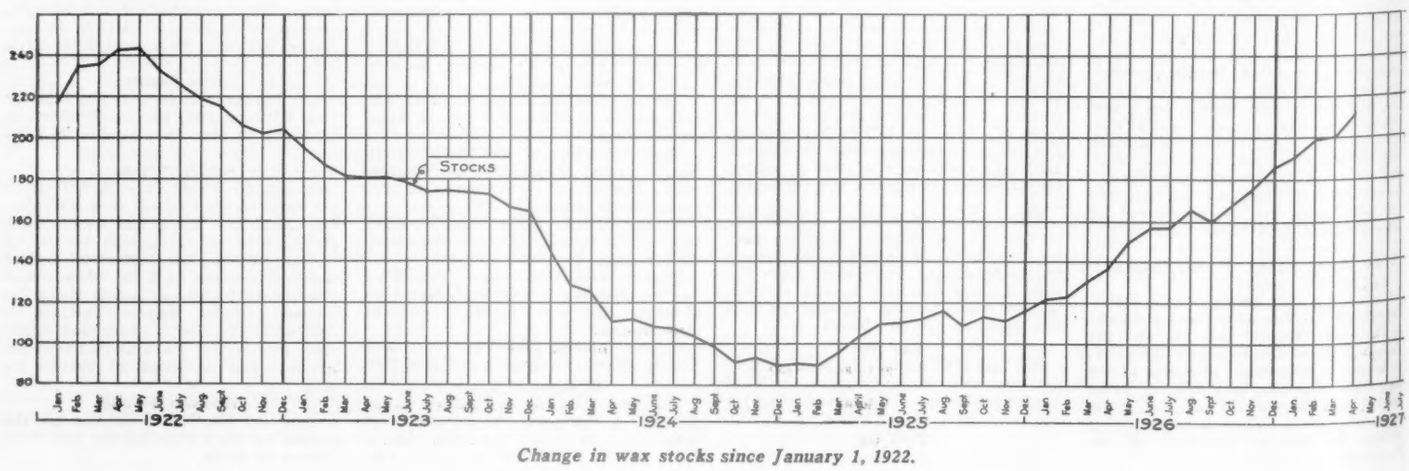
His contentions are substantiated in a general way by the data given in Table 2 which show that while the domestic consumption increased from the 221,590,000 pounds in 1924 to 252,336,000 pounds in 1926 exports decreased from 382,820,000 pounds to 334,519,000 pounds in 1924. Whether this decline in exports actually reflects a decline in foreign consumption, the writer is not in a position to state. However, with over 60 per cent of the wax output moving to foreign countries it is apparent that this export demand is the dominating factor of the American market.

Wax in foreign countries is widely used for lighting by consumers who are not in position to pay high prices. This fact lends credence to the statement that the high prices lessen the demand.

Domestic Demand

The wax demand in this country is much more varied than in foreign countries. The harder paraffin is used in the manufacture of candles. This use is probably decreasing in this country although the demand for ornamental candles starting about four years ago created a very important market for the product. It is said that the demand for ornamental candles has fallen off materially in recent months.

Other uses for wax in this country include the waterproofing of clothes and leather, manufacture of wax paper, gums and matches, coating metal and floors and miners' lamp oils. The cost of the wax used by these several industries is not large and for that reason the amount used is probably not affected by the price. It is said that this industrial demand will continue to increase.



Change in wax stocks since January 1, 1922.

OKLAHOMA FIELDS

(Continued from Page 122)

feet. Barnsdall Oil Co.'s No. 1 D. Davis, NW cor. SE Section 11-9-5, topped the Wilcox sand at 4,314 feet, drilled to 4,319 feet and made 3,637 bbls. Sinclair Oil & Gas Co.'s No. 2 Polly, NE cor. SW NW, Section 3-9-6, was completed for 1,290 bbls. in the Wilcox sand at 4,315-21 feet. Gypsy Oil Co.'s No. 6 Wolfe, SE cor. NW NW Section 26-9-6, swabbed 45 bbls. after a shot in the Wilcox at 4,148-58 feet. Plover Drilling Co.'s No. 1 Drake, NW cor. SW NW Section 16-9-8, is dry and abandoned at 3,360 feet.

Mid-Continent Petroleum Co.'s No. 3 Baker, NW cor. SW SE Section 10-8-6, Bowlegs Pool, was completed for 2,247 bbls. on air after being shot in the Wilcox sand at 3,990-4,086 feet. Indian Territory Illuminating Oil Co.'s No. 1 Davis, SW cor. Section 13-8-6, made 197 bbls. the first day, producing from the second Wilcox break at 4,284-97 feet. Pure Oil Co.'s No. 2 Reed, SW cor. NE SE Section 14-8-6, made 3,175 bbls. from the Wilcox sand at 4,196-4,225 feet. No. 11 Reed, SW cor. SE Section 14-8-6, had the top of the Wilcox sand at 4,245 feet, drilled to 4,274 feet and made 1,610 bbls. when put on air. No. 12 Reed, NW cor. SW SE Section 14-8-6, was shot with 20 quarts in the Wilcox sand at 4,224-55 feet and flowed 1,674 bbls. Shaffer Oil & Refining Co.'s No. 4 Lacey, SW cor. SE SW Section 14-8-6, was completed for 832 bbls. from the Wilcox sand at 4,210-23 feet.

Indian Territory Illuminating Oil Co.'s No. 11 Goforth, SE cor. NW NE Section 15-8-6, produced 1,829 bbls. by air from the Wilcox sand at 4,306-43 feet. No. 5 Walker, NE cor. SE Section 15-8-6, made 2,002 bbls. after it was shot in the Wilcox sand at 4,134-4,234 feet. No. 6 Walker, SE cor. Section 15-8-6, had the Wilcox sand at 4,216-37 feet, was shot with 15 quarts and made 786 bbls. No. 7 Walker, SE cor. NE SE Section 15-8-6, drilled the Wilcox sand at 4,210-63 feet, shot with 30 quarts and made 1,141 bbls. No. 1 Wilmouth, NE cor. Section 15-8-6, had top of the Wilcox sand at 4,062 feet, drilled to 4,156 feet and made 2,593 bbls. after a shot. T. B. Slick's No. 1 Fox, SE cor. NW SE Section 16-8-6, has been abandoned at 4,478 feet. Independent Oil & Gas Co. and Marland Oil Co.'s No. 1 Coker, NE cor. SE NE, Section 21-8-6, made 1,250 bbls. from the Wilcox sand at 4,250-69 feet after being shot.

Indian Territory Illuminating Oil Co.'s No. 1 Youngblood, NW cor. Section 24-8-6, swabbed an initial production of 220 bbls. from the Wilcox sand at 4,425-35 feet. W. R. Ramsey's No. 1 Johnson, SE cor. NE SE Section 30-8-8, Wewoka Pool, has been abandoned at 4,302 feet. Independent Oil & Gas Co.'s No. 1 Palmer, SE cor. SW Section 30-7-6, is a dry hole at 4,570 feet.

The Prairie Oil & Gas Co.'s No. 1 Stidham, SW cor. NE Section 11-9-5, was completed for 4,375 bbls. in the Wilcox sand at 4,297-4,317 feet. No. 2 Whitney, NE cor. NW NW Section 23-8-6, Bowlegs Pool, came in for 700 bbls. in the Wilcox sand at 4,293-4,352 feet. No. 1 Cannon, SE cor. W half NW, Section 33-10-6, made 12 bbls. naturally from the Hunton lime at 4,095-4,113 feet. No. 1 Dare, SE cor. SE NE Section 32-10-6, Searight Pool, is dry in the Hunton lime at 4,090-4,118 feet. No. 1 Whitney, NW cor. NW Section 23-8-6, Bowlegs Pool, flowed 690 bbls. naturally from the Wilcox sand at 4,225-67 feet. No. 2 Harber, NE cor. S half SW Section 10-8-6, produced 1,740 bbls. from the Wilcox sand at 3,973-4,034 feet.

Stephens County

Wirt Franklin is building the rig for No. 5 Apple Franklin, NW cor. SE NE Section 24-1s-4w. Humble Oil & Refining Co. has a rotary rig up for No. 2 Peddycort, NW cor. NE NE Section 25-1s-4w. Magnolia Petroleum Co.'s No. 1 Coffelt, NE cor. NW SE Section 26-1-9w, is rigging up to deepen from 2,078 feet.

Wirt Franklin's No. 3 A. Franklin, SE cor. NE Section 24-1s-4w, was completed for 1,815 bbls. from a series of sands at 2,582 feet to 3,000 feet. Winkler & McQueen's No. 1 Inscore, SE cor. Section 24-1s-4w, made 1,512 bbls. from a series of sands at 2,450 feet to 2,847 feet. Hall and others' No. 1-A Frensley, SW cor. SE NE Section 12-1-6w, is pumping 8 bbls. from sand at 1,098-1,108 feet. Winkler and others' No. 3 Nelson, SE cor. SW NE Section 28-1s-8w, has been abandoned at 2,212 feet.

Tulsa County

Superior Oil Corp.'s No. 1 Harry, CSL SW SW Section 5-19-10, is spudding. Holmes and others have a machine on the ground for No. 1 Harry, SE cor. SW SW NW Section 6-19-10.

Hivick and others' No. 3 Unallotted, SW cor. NW NE Section 4-19-10, is making 2,000,000 feet of gas from the Red Fork sand at 1,998-2,040 feet. Wilson and others' No. 1 Strip, SW cor. NW Section 6-19-10, made 20 bbls. after a shot of 90 quarts in the Red Fork sand at 1,965-2,002 feet. Enfisco Oil Corp.'s No. 1 Unallotted, NE cor. Section 18-19-11 is dry and abandoned in the Turkey Mountain sand at 2,300-73 feet. Hall & Hazen's No. 1 McKim, SE cor. NW Section 33-18-13, was shot with 20 quarts in the Taneha sand at 1,700-35 feet and made 10 bbls. F. Hilt and others' No. 3-A Oswalt, C SW NW Section 6-17-13, made 35 bbls. after the Taneha sand at 1,878-86 feet was shot.

Wagoner County

Cartwright and others' No. 4 Luckey, feet. CEL SE SW, Section 11-18-15, is dry at 1,307 feet. W. O. Dickerson's No. 3 is making 30 bbls. from sand at 1,332-70 feet. No. 4, CNL SW NE Section 6-17-15, is producing 45 bbls. from sand at 1,335-90 feet. Webb and others' No. 2, CEL SW NE Section 20-16-15, was completed for 10 bbls. in sand at 1,360-90 feet. M. E. Johnson's No. 3 Lunnon, NE cor. SW NW Section 14-16-16, is making 5,000,000 feet of gas from sand at 735-45 feet. C. M. Bradley's No. 1 Mission, NE cor. SW NE Section 20-16-18, is dry and abandoned at 760 feet.

Congratulations Offered The Oil and Gas Journal on Work for the Industry

The Oil and Gas Journal:

For some time I have been prompted to congratulate you upon the good work being done by The Oil and Gas Journal in developing thought and promoting action along sound lines in the present evolutionary movement of the oil industry, but your issue of the 16th finally impels me to do so.

No doubt among your many influences you have been successful in developing a more sympathetic understanding between the Government and the industry that will be helpful. But in your issue of June 16th I quite agree you have started another line of discussion also helpful, namely, the question brought out in the article "Crude Small Factor in Gasoline Cost" by L. M. Fanning, and your editorial on the same state of facts.

You have been so successful in getting across to the industry the ideas you have taken up that I would like to suggest another for your consideration, namely, "open covenants, openly arrived at." If the industry is to have a reasonably free rein it must develop public confidence. Secretary Work recently said in this connection: "If the industry would have public confidence, it must take the industry into its confidence." There is no agency that could more effectively get across to the industry this idea than The Oil and Gas Journal.

Wishing for your paper the success to which its constructive work so well entitles it, I am,

Very truly yours,
EARL OLIVER.

Ponca City, Okla.
June 15, 1927.

ROCKY MOUNTAIN AREA

(Continued from Page 61)

A new survey of the Teapot Dome has been ordered by the Federal Government, and the work will be under the direction of Dr. W. T. Thom, Jr., who is in Casper for the purpose.

Hiawatha Dome Test

The Reiter Foster Oil Corp., of Wichita Falls, Tex., is preparing to start a well in Section 16-12-100, Sweetwater County, Wyoming. This location is on the Hiawatha Dome and the corporation's agents state that tools and equipment should reach the site soon. Hiawatha Dome has one well, drilled by the Myers interests last summer, which found a commercial gas flow; the Ohio Oil Co. is spudding in on a well there and Paul S. Ache, of Denver, is also preparing to start a well on his holdings. Hopes are entertained that the structure will be found oil bearing down on the slope.

A deep test is drilling in the Brenning Basin Field, Converse County, by Bannon and others, to see if the deeper sands there hold production. This is one of the oldest oil operations in Wyoming and it is on a monocline about 8 miles west of Douglas. A small refinery is located at Fort Fetterman, the rail point, but this plant has never run any crude. It was expected to operate on Brenning Basin oil but the production failed to materialize in sufficient quantity.

Runs from the Fields

Salt Creek	42,310
Teapot	830
Big Muddy	2,700
Grass Creek	2,620
Elk Basin	910
Greybull	20
Rock River	2,740
Rex Lake	100
Dutton Creek	120
Lance Creek	620
LaBarge	310
Poison Spider	1,030
Notches	60
Osage	340
Hamilton Dome	1,660
Mule Creek	1,040
Lander	50
Byron	80
Lost Soldier	3,050
Ferris	60
Simpson Ridge	10
Cat Creek	2,230
Lake Basin	140
Sunburst	13,000
Iles	475
Walden	128
Florence	798
Moffat	1,649
Fort Collins	3,204
Tow Creek	894
Boulder	25
Rangeley	100
Hogback	780
Rattlesnake	239
Table Mesa	318
Artesia	1,700
Total	86,340

PANHANDLE FIELDS

(Continued from Page 48)

2,965-3,007 feet with 120 quarts and responded with 100 bbls. initially. B. B. Ralph's No. 1 H. E. Smith, Section 10, Block Y, (formerly Spur-Mack Drilling Co.'s No. 1) was shot in lime at 2,822-65 feet with 30 quarts and swabbed 240 bbls. the first 24 hours.

Roberts County

Gibson Oil Corp.'s No. 1 T. S. Jones, was dry and abandoned at 4,220 feet.

NORTH TEXAS MARKET ONLY MARKING TIME

WICHITA FALLS, Tex., June 27.—So far as changes in prices was concerned the North Texas refined market marked time last week with the exception of natural gasolines which were further weakened with an inactive market and a continued growing of storage. Gasoline moved good and kerosene was a little better as other products held their own.

The low prices of natural gasoline failed to attract buyers last week and although some inquiries have been received by natural gasoline manufacturers little buying has been reported since the product went down another quarter of a cent. In Fort Worth, one offer was made to sell 75 cars of double A at 4½ cents without any buyers showing interest. The only bright spot in that market was seen by those who have had a few inquiries for natural gasolines over July.

During the current week and the first of next week several in close touch with the market expect to see naturals strengthen. This expected strength is expected when coastal refiners enter the market for large orders. It was pointed out that one refiner on the coast is expected to make a heavy order during July because of that refiner's comparatively small buying during June.

In the refined gasoline market there was little change of prices and no material change. During the week gasoline moved steadily at present prices. The spot market locally was somewhat improved due to the ideal motoring weather.

Several inquiries are coming to refiners for deliver over July. Most of those inquiries have been for delivery over the first half of July and the remainder over the entire month. And most of the inquiries came from marketers. Because of the steady movement of gasoline during the past few weeks it is rumored that some refiners are considering resuming operations with their crackers which have been shut down for several weeks. Contract gasoline especially has been moved steadily and for a few days a few refiners were behind with orders.

While there was no change in the prices of kerosene its movement was steadier and heavier although, not enough to affect the price structure. Refiners with service stations in the plains area report an increase in station sales of kerosene and a slight increase in bulk station sales.

Fuel oil remained unchanged as did gas oil and distillate.

WHERE IS JACK THORN?

Efforts are being made to locate Jack Thorn, said to be working in oil fields of Oklahoma or Texas as a second-hand tank builder or contractor. He is said to have left his family in El Dorado, Ark., October 7 last, and his wife, the daughter of Stephen P. Meador, of Okolona, Okla., is most anxious to get word as to his whereabouts. Mrs. Thorn writes The Oil and Gas Journal that the family is destitute, and she asks that anyone knowing Mr. Thorn communicate with her at once.

NEW JERSEY-PRAIRIE GAS CO.

Standard Oil Co. of New Jersey and Prairie Oil & Gas have incorporated Colorado Interstate Gas Co. in Delaware with authorized capital of 1,250,000 no par shares. The company plans to construct a 350-mile gas pipe line at a cost of about $22,700,000 from Amarillo gas field, Texas, to supply Denver, Colorado Springs and other adjacent towns with natural gas. The gas will be sold to the Public Service Co. of Colorado for distribution to consumers.

DEATH OF MRS. F. T. CUTHBERT

LIMA, Ohio, June 25.—Mrs. Cuthbert, wife of F. T. Cuthbert, president of the Solar Refining Co. of Lima, Ohio, died Thursday morning, June 23, at Quebec, Canada.

REFINING AND MARKETING

R. A. Moore Is Given Charge of Marketing For Crystal Oil Corp.

SHREVEPORT, La., June 27.—Appointment of R. Alfred Moore, chief lubricating engineer of the Skelly Oil Co. of Tulsa, Okla., as assistant vice president in charge of marketing for the Crystal

R. Alfred Moore

Oil Refining Corp. of this city has been announced by F. W. Burford, vice president and general manager. Mr. Moore will assume his new duties July 1 and will have charge of both wholesale and retail sales.

Mr. Moore has a background of years of experience in the oil industry from all ends, production, refining and marketing, and at present is recognized as one of the country's foremost lubricating engineers. He has had a wide range of experience, covering assignments in foreign countries as well as in the United States.

Starting as a roustabout in California fields in 1902, he worked four years in various field jobs, quitting to enter Leland Stanford University. After leaving school he received three years of sales experience with the National Refining Co., and then entered Battle's Institute at Philadelphia, from which he was graduated as a lubricating engineer.

Following this he went to South America, specializing in lubricating engineering problems for various American engine manufacturers. Returning to the United States in 1915, he received an appointment with the firm of Todd & Co., an engineering firm at Shanghai, China, as superintendent of lubrication. During this period he was called into government service to build a famine relief road into the interior of China, at the completion of which he joined the foreign staff of The Texas Company as chief lubricating engineer.

In this capacity, Mr. Moore continued until 1923, when he returned to America and became affiliated with the Skelly Oil Co., spending his time at Eldorado, Kans., and Tulsa, Okla.

Mr. Moore's appointment with the Crystal Oil Refining Corp. means the creation of a new office in that organization necessitated by the rapid expansion of the company in the past two years, both in marketing and refining.

OKLAHOMA CITY PRICE UP

Oklahoma City has recovered from its recent gasoline price war as the participating stations have increased the price from 11 cents to 15 cents. It was apparent that the low prices could not exist over a long period without ruinous results as the 11 cents retail price is not sufficient to cover even the bare costs.

MID-CONTINENT PLANS NEW LUB DISTRIBUTION

The Mid-Continent Petroleum Corp. is perfecting its organization for the sale and distribution of its new Diamond line of motor and industrial lubricating oils and greases. These new oils will be sold in packages only, the tank car sales being restricted to the regular oils the company has been furnishing. Quality is the keynote carried in the announcement of this new line and it is said these oils will have a much lower cold test, better color and less carbon residue than the general run of Mid-Continent oils of the same viscosity now on the market. The oils were designed to meet the maximum specifications set up by the Society of Automotive Engineers. Only Diamond products will be sold at the companies' stations.

District sales offices are already established at Tulsa, St. Louis, Kansas City, Chicago, Louisville and Dubuque, and jobbers' agencies will be established throughout the 19 states in which the Mid-Continent Petroleum Corp. is marketing. In this plan each agency will be given a definite territory and any business coming from any point within that territory will go to that agency. By establishing the Diamond line the company is placing many new and attractive oils on the market.

PENN-LUBRIC-DIAMOND

As a result of the merging of the Diamond Refining Co. and the Penn Lubric Co. June 1, B. E. Bush, formerly president of the Diamond Refining Co., has been made vice president of the consolidated companies. Operating under the name of the Penn Lubric Co. it now has 65 stations scattered throughout Missouri and Kansas. The Diamond Refining Co. did not include its three Oklahoma gasoline plants in the transfer and these will continue to operate as before.

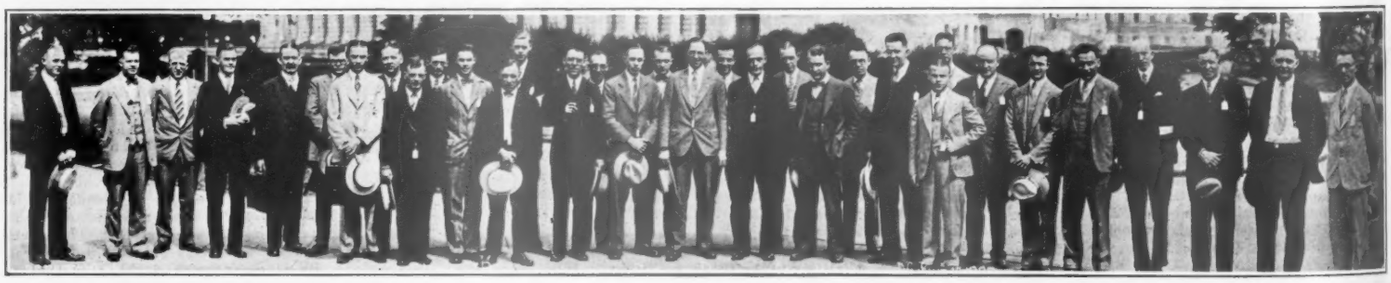
Some Refiners Now Making Contracts to Chicago Trade

By J. B. Waldo

CHICAGO, June 25.—Some of the oil companies which cater to the consuming trade are making contracts with their customers although others state that they shall not call on their customers until after July 1. One large distributor states that at the present time he has booked contracts for a larger quantity of oil in advance than the total of his business last year. The contract of a leading distributor who is also a refiner carries the following stipulations as to prices: "The current market prices of the company at the date of delivery which at present are as follows: For a high-grade straw distillate, in deliveries of under 100 gallons, 8.9 cents; 100 to 499 gallons, 7.9 cents; over 500 gallons, 7.4 cents. The minimum price applies to deliveries on regular routes to tanks of a capacity of 550 gallons or greater. By this is understood that the deliveries are made at regular intervals and the minimum price is charged even if the quantity delivered at one time under these conditions is less than 500 gallons, so that the owner of a 550-gallon tank secures the minimum price. The contract provides that the maximum price under the contract shall not be higher than 1 cent advance over the price stated in the contract. For special deliveries an additional charge of 1 cent a gallon is made. This applies to Sundays and holidays and to deliveries after 5 p. m. on orders received after 1 p. m. of the same day."

The same organization is making contracts with its regular gasoline customers on the following basis: For its high-grade straw distillate a flat price of 5 cents over the winter or at the buyer's option, the market date of shipment with a maximum of 5½ cents. For its 37-40 distillate a flat price of 4½ cents over the

NATIONAL PETROLEUM ASSOCIATION TECHNICAL MEN VISIT THE BUREAU OF STANDARDS AT WASHINGTON



Those attending the Association's visit to the Bureau of Standards were the following: R. B. Allmendinger, Superior Oil Works; D. E. Bechtol, Emlenton Refining Co.; E. E. Bown, Emery Manufacturing Co.; R. R. Buckham, Independent Refining Co.; L. C. Derbyshire, Sinclair Refining Co.; F. B. Dow, Washington Office, National Petroleum Assn.; V. I. Downey, National Refining Co.; G. R. Dye, Ohio Valley Refining Co.; A. P. Fischer, Valvoline Oil Works; C. J. Hasch, Elk Refining Co.; G. F. Henry, Valvoline Oil Works; C. Hulme, Kendall Refining Co.; C. C. Jarret, Freedom Oil Works; C. R. Johnson, Tiona Refining Co.; R. C. Kirwin, Freedom Oil Works; M. E. Koffard, Pennsylvania Refining Co.; H. F. Lesser, Pennsylvania Oil Products Refining Co.; H. L. Lohnes, Washington Office, National Petroleum Assn.; J. J. Loudermill, Indian Refining Co.; R. D. Lowe, Elk Refining Co.; Grant Lyons, Viking Oil Corp.; W. D. Manse, Tri-State Refining Co.; E. D. Peterson, Tiona Refining Co.; F. Phillipbarr, Kendall Refining Co.; F. W. Richardson, Seneca Oil Works.; A. W. Scott, Empire Oil Works; William Smith, Empire Oil Works; A. J. Squier; A. C. Swart, Tidioute Refining Co.; E. G. Swartz, Tiona Refining Co.; H. W. Wagner, United Refining Co.; W. M. Westcott, Crew Levick Co.; George T. Yost, Pure Oil Co.

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., June 25.—A highly successful meeting of technical men representing the National Petroleum Association was held during the present week at the Bureau of Standards. This is an annual event for the National Petroleum Association, the meeting being for the purpose of familiarizing technical workers in private companies with the processes conducted at the bureau.

Numerous tests were demonstrated, the most important of which were the following:

1. Viscosity and demulsibility.
2. Viscomparator and Greascometer.
3. Flash, fire and pour point, and color.
4. Gasoline distillation and sulphur.
5. Crankcase dilution and oxidation.
6. Engine testing.
7. Thermometers.

During the time the association was entertained here, various questions were answered by experts of the Bureau of Standards. Twenty-eight thermometers were brought by representatives of the association to the bureau to be checked, and it was discovered that only 13 conformed to the present specification.

B. B. Stroud, invited at the last meeting of the board of trustees of the National Petroleum Association to act as managing director of the department of manufacture, has accepted this appointment. Previously Mr. Stroud was trustee in charge of this department and achieved distinction by an intelligent understanding of petroleum manufacturing problems and obtained enthusiastic co-operation among the refiners in this class of work.

During the visit of the association in this city, various arrangements were made by Fayette B. Dow, general counsel, and the Bureau of Standards lent its co-operation in promoting a better understanding among technical workers with the affairs of the bureau.

season or the market price date of shipment with a maximum of 5 cents; for its 32-36 furnace fuel oil the flat price is 3½ cents and the maximum 4 cents. The company states that it does not expect to have more than enough of any of the above products than will be required by its own distribution and the needs of its regular gasoline customers.

Another refiner also with some distribution of his own is offering his regular customers contracts based on the market date of shipment with a maximum of 4½ cents and a minimum of 3½ cents for his special distillate and a maximum of 4 and a minimum of 3 cents for his re-cycled gas oil. These are the products of the Dubbs cracking stills with some special treatment for sweetness but the color is dark.

Other Contracts

Another refiner also with considerable distribution is offering its contract gasoline customers its special furnace oil, which is a 37-40 distillate treated for color and odor, at one-quarter of a cent above the spot market for the 38-40 straw distillate.

Some refiners and marketers believe that maximum prices named in some of these contracts are too low and state that they have made no contracts with a maximum of less than 5 cents for straw gas oil and 5½ cents for distillate. The refiner with distribution has a distinct advantage at the present time in making contracts. He knows very closely at least what his distillates or rerun gas oil will cost him and has at least some idea how much he will have to offer for sale and can limit the amount of his contracts to that quantity or withhold part of his possible production on the chance that the winter will be severe and that he may be able to secure a better price in the spot market for any surplus. The marketer who must depend on some refiner for his supplies is finding it a difficult matter to line up his business for the coming season at present.

SUPER STATIONS ONLY FOR SECURITIES CO.

By L. P. Stockman

LOS ANGELES, Calif., June 25.—The most recent outstanding development in California from a marketing standpoint is the entrance of the Petroleum Securities into the retail service station trade. While no official announcement has yet been made, the writer has been unofficially informed that this company will probably go into this angle of the game on a large scale. The Petroleum Securities, it will be recalled, is a Doheny concern.

Heretofore this company has refrained from entering the marketing business, leaving this angle to the Pan American Petroleum So., the stock of which is held by the Pan American Western Petroleum Co. From the start already made, however, it looks like the Petroleum Securities is going into the retail service station trade on a broad scale. An interesting development in connection with the operations of these two Doheny organizations is the fact that the Petroleum Securities is erecting all super stations, while those put up by the Pan American in the past have been of the original filling station type.

Up to the present time the Pan American has not extended its distributing facilities north of San Luis Obispo but unless all signs fail both this company and the Petroleum Securities will expand in that direction in the near future. The Pan American has only erected a limited number of service stations during the past several months and it begins to look as though the marketing angle of the game is to be left to the Petroleum Securities in the future with the former free to engage in refining operations and exploitation of wildcat acreage.

DIESEL LOCOMOTIVE SAVING

In a test run of 90 miles on the Lehigh Valley Railroad a General Electric Co. Diesel locomotive pulled a train that distance and used only 63 gallons of heavy fuel oil. The cost of the fuel oil used was $4.30. The cost of coal needed to cover this trip was estimated at $32.

President Trower, Of Gasoline Assn., Names Committees

H. A. Trower, president of the Association of Natural Gasoline Manufacturers, has appointed the various committees to carry on the work of the association for the coming year. He is asking that each committee meet in the near future to plan the year's work. The committee on Education and Research will meet on June 30 to recommend a program for Dr. G. G. Brown's work at the University of Michigan and on July 5, the executive committee will act on the recommendations. Doctor Brown heads the research work of the association.

The following is a list of all committees:

Executive committee: S. C. Carney, Roxana Petroleum Corp.; D. E. Buchanan, Chestnut & Smith Corp.; E. L. Peck, Empire Gasoline Co.; Emby Kaye, Skelly Oil Co.; A. J. Schlosser, Barnsdall Oil Co.; M. E. Mockley, Amerada Petroleum Corp.; F. L. Chase, Lone Star Gas Co.

Meters and Regulators committee: E. A. Clark, Oklahoma Natural Gas Corp.; R. I. Short, Prairie Oil & Gas Co.; E. L. Stauffacher, Empire Gasoline Co.; D. E. Williams, Marland Refining Co.; Don Sillers, Lone Star Gas Co.; T. A. Hall, Tidal Refining Co.; Morris Plank, Roxana Petroleum Corp.; R. A. Rawlings, Bureau of Mines.

Plant Operators' Meetings committee: E. R. Lederer, Texas Pacific Coal & Oil Co.; O. H. Schoenwald, L. H. Wentz, oil division; F. G. Yonkers, Chestnut & Smith Corp.; W. A. Melton, Shaffer Oil & Refining Co.; S. C. Carney, Roxana Petroleum Corp.

Technical committee: G. G. Oberfell, Phillips Petroleum Co.; C. R. Barton, Tidal Refining Co.; Emby Kaye, Skelly Oil Co.; A. J. Schlosser, Barnsdall Oil Co.; A. M. Ballard, Sun Oil Co.; S. C. Carney, Roxana Petroleum Corp.; W. R. Lentz, Chestnut & Smith Corp.

Tank Car committee: C. C. Meadows, Tidal Refining Co.; C. H. McBirney, Transcontinental Oil Co.; Walter Grubb, Barnsdall Refining Co.; L. A. Coberg, Shaffer Oil & Refining Co.; J. C. Carothein, Chestnut & Smith Corp.; A. C. Holmes, Empire Gasoline Co.; F. W. McGrath, Skelly Oil Co.; Fred Isaminger, Roxana Petroleum Corp., Roxana, Ill

Membership committee: E. L. Peck, Empire Gasoline Co.; D. E. Buchanan, Chestnut & Smith Corp.; E. R. Lederer, Texas Pacific Coal & Oil Co.; S. C. Carney, Roxana Petroleum Corp.; George L. Ratcliffe, General Petroleum Corp.; J. E. Hare, California Gasoline Co.; E. Arthur Durham, Wiser Oil Co.

Traffic committee: F. E. Burke, Chestnut & Smith Corp.; C. R. Musgrave, Phillips Petroleum Co.; A. F. Winn, Skelly Oil Co.; A. C. Holmes, Empire Gasoline Co.; W. W. Klingensmith, Transcontinental Oil Co.; C. F. Dowd, Tidal Refining Co.; A. H. Evans, Akin Gasoline Co.; C. H. Campbell, Lone Star Gas Co.; S. B. Crooks, Empire Gasoline Co.; H. C. Mulroy, Marland Refining Co.; R. E. Stewart, Barnsdall Refining Co.

Specifications committee: A. F. Wood, Chestnut & Smith Corp.; George P. Bunn, Phillips Petroleum Co.; E. R. Lederer, Texas Pacific Coal & Oil Co.; S. B. Crooks, Empire Gasoline Co.; F. C. Hall, The Henderson Co.; Roscoe Howard, Marland Refining Co.; R. D. Webb, Carbide & Carbon Chemicals Corp.

Gas Testing committee: George P. Bunn, Phillips Petroleum Co.; A. J. Schlosser, Barnsdall Oil Co.; J. H. Boyle, Chestnut & Smith Corp.; O. S. Ambrose, Tidal Refining Co.; R. I. Short, Prairie Oil & Gas Co.; E. C. LeFevre, Empire Gasoline Co.; W. G. Watkins, Skelly Oil Co.; P. M. Childers, Marland Refining Co.; Harry Mentzell, Amerada Petroleum Corp.; E. F. Schmidt, Lone Star Gas Co.; D. A. Maulsby, Oklahoma Natural Gas Corp.

Finance committee: A. M. Ballard, Sun Oil Co.; D. E. Buchanan, Chestnut & Smith Corp.; B. A. Whitney, Transcontinental Oil Co.

Legal committee: W. C. Franklin, Tidal Refining Co.; R. H. Hudson, Phillips Petroleum Co.; Carl D. Griffith, Lone Star Gas Co.; W. M. Z. German, Skelly Oil Co.; L. B. Jackson, Oklahoma Gasoline Plants, Inc.

Gas Contract committee: J. H. Boyle, Chestnut & Smith Corp.; O. S. Ambrose, Tidal Refining Co.; George P. Bunn, Phillips Petroleum Co.; S. J. Frazier, Prairie Oil & Gas Co.; E. C. LeFevre, Empire Gasoline Co.; J. W. Cowles, Roxana Petroleum Corp.; Donald W. Stewart, Union Gas Co.; John E. Jones, Marland Refining Co.

Sales Managers committee: A. F. Wood, Chestnut & Smith Corp.; R. N. Cline, Tidal Refining Co.; F. D. Bostaph, Texas Pacific Coal & Oil Co.; S. B. Crooks, Empire Gasoline Co.; J. F. Nagle, Skelly Oil Co.; C. C. Peppers, Peppers Gasoline Co.; M. E. Foster, Phillips Petroleum Co.; F. C. Hall, The Henderson Co.; O. H. Schoenwald, L. H. Wentz, oil division.

Outage committee: Emby Kaye, Skelly Oil Co.; E. R. Lederer, Texas Pacific Coal & Oil Co.; M. E. Foster, Phillips Petroleum Co.; F. E. Burke, Chestnut & Smith Corp.; C. F. Dowd, Tidal Refining Co.; E. L. Stauffacher, Empire Gasoline Co.; O. S. Ambrose, Tidal Refining Co.

NATURAL GASOLINE, PANHANDLE OUTPUT

Natural gasoline production in the Panhandle area of Texas continued to climb during May, according to reports from the field covering the entire month. The total production of that area was almost 9,000,000 gallons during May. Several companies increased their production over April.

Of the five counties in the Panhandle area, manufacturing natural gasoline, Hutchinson County continues to lead by a wide margin. That county in May had approximately 78 per cent of the total output, Carson and Gray Counties 9 and 10 per cent, with the remainder in Potter and Wheeler Counties.

Following is a list of companies and individuals operating in the Panhandle during May and their approximate daily production in gallons:

Phillips Petroleum Co.	145,000
Associated Producers Gas Co.	5,500
Coyle-McQuire	7,000
Dixon Creek Oil Co.	13,000
Cockrell-McIlroy	1,100
Federal Gasoline Co.	3,200
Marland Refining Co.	10,000
Baker-Ralph	2,000
Roxana Petroleum Corp.	20,000
Skelly Oil Co.	50,000
Cannon Gasoline Co.	1,500
Atlantic Oil Producing Co.	8,000
Empire Gasoline Co.	2,500
Magnolia Petroleum Co.	5,500
Wilcox Oil & Gas Co.	3,000
Phelps Gasoline Co.	3,000

SOME BULK STATIONS SHARPLY CRITICIZED

CHICAGO, June 25.—There is a determined protest to be made against the methods used in many of the so-called bulk service stations. In these the bulk plant is connected directly to the pumps and little attention is paid to the fire law of the states in which the stations are located or to the regulations of the American Railroad Association when the plant is located on a siding as many of them are. In almost no cases are the plants protected by dikes, for one thing. There are several hundred of these stations in Ohio, Indiana, Illinois and Wisconsin and in the majority of cases the dealers state the installation is in flagrant violation of the regulations governing fire hazards.

One such plant was instanced as being located within less than a block from a hotel. Nearly all of these stations sell to the consumer at the tank wagon price alleging that there is a great saving by this method which the dealer is passing on to his customers. The actual saving is, according to experienced oil men, less than one-half cent a gallon. In most cases the buyer receives no service such as he expects and in fact insists on at regular service stations. One dealer stated that motorists would fill at such a bulk station and then drive several blocks to his station for free air and water.

SWENEY BUYS TULSA OIL CO.

CHICAGO, June 25.—The Sweney Gasoline & Oil Co. of Peoria has bought the Tulsa Oil Co. of Springfield, owned by Harry Renfro, and will continue the business. Mr. Renfro has two filling stations in Springfield, one of which is opposite the capital building and is a large and successful station.

L. E. YUNDT DIES

CHICAGO, June 25.—L. E. Yundt, vice president of the Wadhams Oil Co. of Milwaukee, died suddenly of heart disease June 19. Mr. Yundt had been connected with the Wadhams Oil Co. continuously since 1899 and had gradually risen to the position of vice president in charge of purchases. He had been in ill health for some time but the critical nature of his condition was not realized.

OCCUPYING NEW QUARTERS

CHICAGO, June 24.—The recently organized Petroleum Exchange, Inc., is taking possession of its new offices in the building at 624 South Michigan Ave. These offices were formerly a portion of the space occupied by the Independent Oil Men of America. President L. V. Nicholas of that association is moving his offices to the twelfth floor where office room has been taken for Mr. Nicholas' personal use.

N. P. A. Anniversary Program Discussed At Oil City Meeting

OIL CITY, Pa., June 26. — The fall meeting of the National Petroleum Association at Atlantic City will be in honor of its twenty-fifth anniversary. It is the oldest oil association in the world, and has an unique record in that all of its original company members are still in existence with the exception of three.

Thursday, September 15, will be devoted by the National Petroleum Association to talks concerning the history of the organization, what it has sought to accomplish and what has been actually done. It is expected to make this session interesting to those who have made the history of the organization and also to those who are new to its affairs.

The other two days of the session, September 14 and 16, will be largely of the same character as other annual and semi-annual meetings of the organization and for them some of the foremost speakers possible will be obtained. The regular departmental meetings will also be held.

The regular monthly dinner meeting of the trustees of the industrial section of the association was held Friday evening at the Wanango Club.

A. W. Scott, of Oil City, trustee of the department of standards and tests, told of a trip taken by 35 technical men of the association to the Bureau of Standards at Washington, D. C., recently and of the test and research work done there. B. B. Stroud, of Warren, trustee of the department of manufacture, read a report showing the average saving per refinery for members co-operating in the engineering service. The fuel saving alone per refinery, it was brought out, was $12,800 for one year.

R. A. Watowitch, trustee of the department of welfare and insurance, gave a report on the accomplishments of the fire marshals in line with fire prevention work. B. M. Lyons, trustee in charge of the department of trade and commerce, told about the future plans to be inaugurated by that department.

Wyllis Crane, traffic attorney, stated that the legal department is at present following up 80 traffic cases for association members. F. B. Dow, general counsel, outlined the activities of the Washington office of which he is in charge.

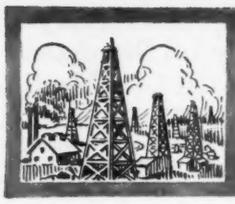
The following were in attendance at the meeting: O. P. Keeney, president; G. B. Hunter, treasurer; F. B. Dow, A. C. Woods, C. D. Berry, C. L. Suhr, Albert Weingard, F. Von Tackey, L. A. Tarbox, H. H. Ross, E. W. Chase, R. S. Tarbox, H. S. Bell, E. M. Lyons, F. G. Clarke, B. B. Stroud, A. W. Scott, A. L. Confer and H. V. Green.

SHAFFER WINS P. O. CONTRACT

CHICAGO, June 25. — The contracts for supplying the gasoline for the Post Office Motor Vehicle Department for the three months beginning July 1, has been awarded to the Shaffer Oil & Refining Co., of this city. The price is made on the basis of tank car deliveries out of Group 3, the rate being one-fourth cent above the market price date of delivery with a maximum of 7¼ cents. The Government pays the freight at the reduced rate for United States Government deliveries and the Shaffer Oil & Refining Co. is paid one-half cent for handling charges which include the storage of the gasoline and its delivery at the bulk storage to the truck of the department.

OIL MEN'S OUTING

CHICAGO, June 25.—The Chicago Oil Men's Club held its annual outing at the Crystal Lake Country Club Thursday. The program included a baseball game between nines headed by Barney Majewski and George Peterson representing the refiners and distributors respectively. Owing to a superior pitching staff the refiners won. There were various golf contests and in the evening an elaborate dinner. About 100 Chicago oil men were present.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	June 28		June 21		June 14	
OKLAHOMA (Group 3)—						
50-52 450 endpoint (Naphtha)	.06¼	.06⅜	.06¼	.06⅜	.06¼	.06⅜
56-58 450 endpoint	.06¼	.06⅜	.06¼	.06⅜	.06¼	.06⅜
58-60 450 endpoint	.06½	.06⅝	.06⅜	.06½	.06⅜	.06½
58-60 437 endpoint (U. S. Motor)	.06¾		.06⅝	.06¾	.06⅝	.06¾
60-62 400 endpoint	.07		.07		.07	
64-66 375 endpoint	.07⅛	.07¼	.07⅛	.07¼	.07⅛	.07¼
68-70 360 endpoint	.07½		.07½		.07½	
64-66 437 endpoint	.06¾	.06½	.06¼	.06½	.06½	
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
NORTH TEXAS—						
56-58 437 endpoint	.06¼	.06½	.06¼	.06½	.06¼	.06½
58-60 450 endpoint	.06¼	.06⅜	.06¼	.06⅜	.06¼	
58-60 437 endpoint (U. S. Motor)	.06½	.06⅝	.06½	.06⅝	.06½	.06⅝
60-62 400 endpoint	.06¾	.06⅞	.06⅜	.06⅞	.06¾	
64-66 390 endpoint	.07		.07		.07	
64-66 375 endpoint	.07	.07⅛	.07	.07⅛	.07	.07¼
68-70 360 endpoint	.07¼	.07½	.07¼	.07½	.07½	
64-66 437 endpoint (blend)	.06½		.06½		.06½	
NORTH LOUISIANA—						
56-58 437 endpoint (U. S. Motor)	.07		.06¾	.07	.06¾	
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.07	
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08½	.07¾	.08½	.07¾	.08½
54-56 Naphtha	.08½	.08¾	.08½	.08¾	.08½	.08¾
58-60 Gasoline	.08⅞	.09⅛	.08⅞	.09⅛	.09	.09¼
60 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
62 Gasoline	.10	.10¼	.10	.10¼	.10	.10¼
64 Gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic.	.08	.09	.08	.09	.07½	.08½
CHICAGO DISTRICT (Based on Group 3)—						
60-52 450 endpoint (Naphtha)	.06¼	.06½	.06¼		.06½	
56-58 450 endpoint	.06½	.06⅝	.06⅜	.06½	.06⅜	.06½
58-60 347 endpoint (U. S. Motor)	.06¾		.06¾		.06¾	
60-62 400 endpoint	.07		.07		.07	
64-66 375 endpoint	.07¼		.07¼		.07¼	
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 endpoint (blend)	.06½		.06½		.06½	

NATURAL GASOLINE

	June 28		June 21		June 14	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½		.04½	.04¾	.05	.05⅛
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05	.05⅛
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅜		.04½	.04¾	.05	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04⅜		.04½	.04¾	.05	
Grade C, 80-90, 375 e.p., rec. 78%	.04¼	.04⅜	.04½	.04¾	.05	
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e. p., rec. 90%	.04½		.04¾		.05	
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¼	.04⅜	.04½	.04¾	.04¾	.05
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¼	.04⅜	.04½	.04¾	.04¾	.05
Grade C, 80-90, 375 e.p., rec. 78%	.04¼		.04½	.04¾	.04¾	.05
NORTH LOUISIANA—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½	.04¾	.04¾	.05	.05	.05¼
Grade BB, 84-92, 375 e.p., rec. 85%	.04½	.04¾	.04¾	.05	.05	.05¼
Grade C, 80-90, 375 ep., rec. 78%	.04⅜	.04⅝	.04⅝	.04⅞	.04¾	
CALIFORNIA—						
75-85, 370, 390 endpoint	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½		.04¾		.05⅛	
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05⅛	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅜		.04½	.04¾	.05	.05⅛
Grade B, 76-83.9, 375 e.p., rec. 85%	.04⅜		.04½	.04¾	.05	.05⅛
Grade C, 80-90, 375 e.p., rec. 78%	.04¼		.04½	.04¾	.05	

BURNING OIL

	June 28		June 21		June 14	
KANSAS—						
41-43 water white Kerosene	.04⅜	.04½	.04⅜	.04½	.04½	
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04	.04¼	.04	.04¼	.04⅛	.04¼
42-44 water white Kerosene	.04⅜	.04½	.04⅜	.04½	.04½	
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04½	.04¾	.04⅝	.04¾	.04⅝	.04¾
NORTH TEXAS—						
41-43 water white Kerosene	.03¾	.04	.03⅞	.04⅛	.04	.04⅛
40-42 water white Kerosene	.03¾		.03¾		.03⅞	.04
ARKANSAS—						
41-43 water white Kerosene	.04¼	.04½	.04½	.04¾	.04½	.04¾
PENNSYLVANIA—						
43 Kerosene prime white	.06¼	.06½	.06¼	.06½	.06¼	.06½
45 Kerosene water white	.06¼	.06½	.06⅜	.06⅝	.06¼	.06½
46 Kerosene water white	.06¾	.07	.06⅞	.07⅛	.06¾	.07
47 Kerosene water white	.07	.07¼	.06¾	.07	.07	.07¼
300 Mineral Seal	.07½	.07¾	.07½	.07¾	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.05¾	.06½	.05¾	.06½	.05¾	.06½
Engine distillate, 43-45 445 endpoint	.07	.07½	.07	.07½	.07	.07½
Engine distillate, 42-44 480 endpoint	.06¾	.07	.06¾	.07	.06¾	.07
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04⅛	.04¼	.04¼	.04⅜	.04⅜	.04½
42-44 water white Kerosene	.04½		.04½		.04⅝	.04¾

FUEL OILS

	June 28		June 21		June 14	
KANSAS—						
24-26 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Distillate	.03½	.03⅝	.03½		.03½	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil	.85	.90	.85	.90	.85	.87½
18-22 Fuel Oil	.90	.92½	.90	.92½	.87½	.90
22-26 Fuel Oil	.90	.92½	.90	.92½	.90	.92½
24-26 Fuel Oil	.92½	.95	.90	.95	.90	.95
26-30 Fuel Oil	.95	.97½	.95	.97½	.95	.97½
28-30 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil (dark)	.02⅝		.02⅝		.02⅝	
32-36 Gas Oil (straw overhead)	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02⅞
36-38 Distillate	.03⅛		.03⅛		.03⅛	
38-40 Straw Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.87½	.90	.87½	.90	.85	
32-36 Gas Oil (straw)	.02⅝	.02¾	.02⅝	.02¾	.02½	.02¾
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03	
NORTH LOUISIANA—						
18-20 Fuel Oil	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil	.03	.03⅛	.03¼	.03½	.03¼	.03¾
ARKANSAS—						
36-38 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
32-36 Gas Oil (straw)	.03¼	.03½	.03¼	.03½	.03¼	.03½
16-20 Refinery Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
GULF COAST (South Texas)—						
Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04⅜
Fuel Oil	1.50	1.60	1.50	1.60	1.50	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04⅜
36-40 Fuel Oil	.04¼	.04⅜	.04¼	.04⅜	.04⅜	.05
CALIFORNIA—						
33-36 Distillate	.03⅜	.04	.03⅜	.04	.03⅜	.04
27-32 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03⅝
*15-20 Fuel Oil, Bunkers (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots)	.71	.75	.71	.75	.71	.75
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	.95		.95		.92½	.95
22-26 Fuel Oil (sellers' cars) Group 3	.92½	.95	.92½	.95	.90	.92½
18-22 (Group 3)	.90	.92½	.90		.90	
16-20 Smackover	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil (zero)	.03	.03⅛	.02⅞	.03¼	.02⅞	.03
32-36 Gas Oil (industrial)	.02¾	.02⅞	.02⅝	.02⅞	.02⅝	.02⅝
36-38 Distillate	.03⅛	.03¼	.03	.03¼	.03	.03⅛
38-40 Straw Distillate	.03¼	.03⅜	.03¼	.03½	.03¼	.03⅜

*Bunkers.

LUBRICATING OIL AND WAX

	June 28		June 21		June 14	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06½	.06¾	.06½	.06¾	.06½	.06¾
100 vis., 3 color, 20-25 cold test	.06¾	.06½	.06¼	.06½	.06¼	.06½
150 vis., 3 color, 20-25 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
150 vis., 4 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08¾
180 vis., 3 color, 23-28 cold test	.10	.10¼	.10	.10¼	.10	.10¼
180 vis., 4 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
180 vis., 5 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 3 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 4 color, 23-28 cold test	.10¾	.10⅞	.10¾	.10⅞	.10¾	.10⅞
200 vis., 5 color, 23-28 cold test	.10½	.10¾	.10½	.10¾	.10½	.10¾
240 vis., 3 color, 25-30 cold test	.14	.14¼	.14	.14¼	.14	.14¼
240 vis., 4 color, 25-30 cold test	.13½	.13¾	.13½	.13¾	.13½	.13¾
240 vis., 5 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
280 vis., 3 color, 25-30 cold test	.15¾	.16¼	.15¾	.16¼	.15¾	.16¼
280 vis., 4 color, 25-30 cold test	.15¼	.15½	.15¼	.15½	.15¼	.15½
280 vis., 5 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
Cylinder Stocks:						
600, steam refined, light green	.07	.09	.07	.09	.07½	.10
600, steam refined, dark green	.05	.06	.05	.06	.05	.06
190-200 vis. @ 210 Bright Stock	.31	.33	.31	.33	.31	.33
150-160 vis., % 210 Bright Stock	.26		.26		.26	
Waxes:						
124-126 White Crude Scale Wax	.02⅜	.02½	.02½	.02¾	.02⅜	.02⅝
PENSYLVANIA—						
34 Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.07	.07¼	.07	.07¼	.07	.07¼
150, 3 color	.28¼	.28½	.28¼	.28½	.28¼	.28½
180, 3 color	.32¼	.32½	.32¼	.32½	.32¼	.32½
200, 3 color	.34¼	.34½	.34¼	.34½	.34¼	.34½
220, 3 color	.34¼	.36½	.34¼	.36½	.34¼	.36½
600, steam refined	.08¾	.09	.08¾	.09	.08¾	.09
635, steam refined	.10¼	.10½	.10¼	.10½	.10¾	.11
650, steam refined	.12¼	.12½	.12¼	.12½	.12¾	.13
600, Pennsylvania flash	.17½	.18	.17½	.18	.17½	.18
630, Pennsylvania flash	.26½	.27	.26½	.27	.28	.28½
*550, E filtered	.17¼	.18	.17	.17¾	.17¼	.18
*600, E filtered	.18¼	.19	.18¼	.19	.18¼	.19
600, E filtered	.17¼	.17¾	.17¼	.17¾	.17¼	.17¾
600, D filtered	.25	.25½	.25	.25½	.25	.25½
550, E filtered	.17½	.18	.17½	.18	.17½	.18
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.33	.33½	.33	.33½	.33	.33½
†122-124 White Crude Scale Wax	.02⅞	.03¼	.02⅞	.03¼	.02⅛	.03
†124-126 White Crude Scale Wax	.03⅛	.03¼	.03⅛	.03¼	.03	.03⅛

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.07	.07½	.07	.07½	.07	.07½
No. 3 color, 200 vis., pale oil	.10½	.11	.10½	.11	.10½	.11
No. 3 color, 300 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 3½ color, 500 vis., pale oil	.13½	.14	.13½	.14	.13½	.14
No. 4 color, 750 vis., pale oil	.16	.16½	.16	.16½	.16	.16½
No. 5 to 6 color, 200 vis., red oil	.08½	.09	.08½	.09	.08½	.09
No. 5 to 6 color, 300 vis., red oil	.10	.10½	.10	.10½	.10	.10½
No. 5 to 6 color, 500 vis., red oil	.11½	.12	.11½	.12	.11½	.12
No. 5 to 6 color, 750 vis., red oil	.14½	.15	.14½	.15	.14½	.15
No. 2 color, 200 vis., pale filtered	.13	.14	.13	.14	.13	.14
No. 2 color, 300 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½ color, 500 vis., pale filtered	.16	.17	.16	.17	.16	.17
No. 2½ color, 750 vis., pale filtered	.20	.21	.20	.21	.20	.21
CALIFORNIA—						
130 vis., 2½-3 color	.10½	.11	.10½	.11	.10½	.11

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

200 vis., 2½-3	color	.11	.11½	.11	.11½	.11	.11½
300 vis., 3 -3½	color	.11½	.12	.11½	.12	.11½	.12
350 vis., 3½-4	color	.12	.13	.12	.13	.12	.13
400 vis., 3½-4	color	.13	.15½	.13	.15½	.13	.15½
Red Neutral:							
200 vis., 4½-5	color	.09½	.10½	.09½	.10½	.09½	.10½
300 vis., 5 -6	color	.10½	.11	.10½	.11	.10½	.11
400 vis., 5 -6	color	.12	.13½	.12	.13½	.12	.13½
500 vis., 4½-5	color	.13½	.14½	.13½	.14½	.13½	.14½
500 vis., 5 -6½	color	.12½	.13½	.12½	.13½	.12½	.13½
600 vis., 6 plus	color	.13½	.14½	.13½	.14½	.13½	.14½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	June 28	June 21	June 14
Gasoline, U. S. Motor, 58-60 437	.09	.09	.09
Kerosene, water white, 41-43	.07	.07	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.65	1.65	1.65
*Fuel Oil, Diesel, 28-30, per bbl.	2.20	2.20	2.20
Gas Oil, 28 plus	.05½	.05½	.05½
25 pale Paraffin Oil	.12	.12	.11¾
28 pale Paraffin Oil	.07¼	.07¼	.07¼
28 red Paraffin Oil	.12¾	.12¾	.12¾
250 red Paraffin Oil	.11¾	.11¾	.11¾
225 red Paraffin Oil	.10¾	.10¾	.10¾
200 red Paraffin Oil	.09¾	.09¾	.09¾
Refined Wax:			
120-122 a.m.p., per lb.	.03⅞	.03⅞	.03⅞
125-127 a.m.p., per lb.	.04	.04	.04
130-132 a.m.p., per lb.	.04½	.04½	.04½
135-137 a.m.p., per lb.	.05	.05	.05
Petrolatum, in bbls.; carload lots, per lb.:			
Dark green	.01	.01	.01¾
Amber	.03¼	.03¼	.03¼
Extra amber	.03⅝	.03⅝	.03⅝
Cream	.05½	.05½	.05½
Lily white	.07	.07	.07
Snow white	.08	.08	.08

*Lighterage 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	June 28	June 21	June 14
Gasoline, U. S. Motor, 58-60 437, in cases	.2440	.2440	.2490
Kerosene, standard white, in cases	.1615	.1615	.1615
Kerosene, water white, in cases	.1715	.1715	.1715
600 steam refined cylinder stock, in bbls.	.17	.17	.18
635 steam refined	.19	.19	.20
650 steam refined	.21	.21	.22
600 Pennsylvania flash	.25	.25	.26
630 Pennsylvania flash	.34	.34	.34
600 Warren E	.36	.36	.36
600 Oil City E	.24½	.24½	.24½
Light 135 Bright Stock	.41	.41	.42
Dark 135 Bright Stock	.39	.39	.40

LOS ANGELES EXPORT PRICES

	June 28		June 21		June 14	
Kerosene water white	.04¼	.04½	.04¼	.04½	.04¼	.04½
U. S. Motor Gasoline, 53-55 437 e.p.	.05½	.06½	.05½	.06½	.05½	.06½

CALIFORNIA CRUDE PRICES

*Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)

Gravity—	Fullerton, Seal Beach, Long Beach, Huntington Beach, Richfield, Rosecrans, Dominguez, Torrance, Inglewood	Whittier, La Habra, Montebello	Kern River, Hall & McKittrick, Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	Coyote	Santa Fe Springs	Coalinga	Wheeler Ridge	Santa Maria, Ventura, Orcutt, Salt Lake
	1	2	3	4	5	6	7	8
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.76	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Domingues, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 8—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted only by Union Oil Co.

CRUDE OIL GRAVITY PRICE TABLE

Gravity—	Okla., Kans., N. C. Tex., La.-Ark.	Smackover, Ark.	Stephens, Ark.	Wheeler and Gray Counties (Texas Panhandle)	Crane, Upton Crockett Counties (West Texas)	Salt Creek, Wyo.	Grade B & Light Crude (G. Coast)	Somerset, (South Central Texas)
	1	2	3	4	5	6	7	8
Below 24	....	1.00	....	....	....	....	....	....
24 to 24.9	....	1.25	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.16	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	.70	....	....	....	....
26 to 26.9	....	....	....	.72	....	....	1.19	....
27 to 27.9	....	....	....	.74	....	....	1.21	....
Below 28	****	....	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.76	....	1.23	....
29 to 29.9	1.14	....	1.04	.82	.78	1.14	1.25	....
30 to 30.9	1.16	....	1.06	.84	.80	1.16	1.27	....
31 to 31.9	1.18	....	1.08	.86	.82	1.18	1.29	....
32 to 32.9	1.20	....	1.10	.88	.84	1.20	1.31	1.05
33 to 33.9	1.22	....	....	.90	.86	1.22	1.33	1.07
34 to 34.9	1.24	....	....	.92	.88	1.24	1.35	1.09
35 to 35.9	1.26	....	....	.94	.90	1.26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.92	1.28	....	1.13
37 to 37.9	1.30	....	....	.98	....	1.30	....	1.15
38 to 38.9	1.32	....	....	1.00	....	....	....	1.17
39 to 39.9	1.34	....	....	1.02	....	....	....	....
40 to 40.9	1.36	....	....	1.04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1.40	....	....	1.08	....	....	....	....
43 to 43.9	1.42	....	....	1.10	....	....	....	....
44 to 44.9	1.44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1.50	....	....	....	....	....	....	....
48 to 48.9	1.52	....	....	....	....	....	....	....
49 to 49.9	1.54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1.58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule May 5, making price below 33 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 33-33.9 gravity at $1.07 as basis, with a top price of $1.45 for 52 and above.

Oklahoma: Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 12; Carter Oil Co., The Texas Company, March 14.

North Central Texas—(Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only), Currie, Nocona, Moran and Corsicana light); Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer and El Dorado only); Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—Standard Oil Co. of Louisiana, The Texas Company, Gulf, Atlantic, March 17, Magnolia Petroleum Co. (March 16) posted price of $1 for below 24 degrees and $1.15 for 24 and above. Louisiana Oil Corp. posted following prices effective March 16: Below 24, $1, 24 to 27.9, $1.15; 28 to 28.9, $1.17; 29 to 29.9, $1.19; 30 and above, $1.21.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14.

Column 5—Humble Oil & Refining Co., Kay County Gas Co. and Gulf Pipe Line Co., March 14.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

****Prices for crude below 28 gravity: Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree with exception of Humble Oil & Refining Co., which pays $1.12 for crude below 28 degrees gravity.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927) $1.00
Other fields .... See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County .... $ .95
*Hutchinson County .... .95
Gray-Wheeler Counties .... See gravity table

*Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. and Kay County Gas Co., March 14.

WEST TEXAS

*Iatan (Same as North Texas)
Crane-Upton-Crockett .... See gravity table

*Includes Howard County and Westbrook Fields. Kay County Gas Co. pays $1.05 for Howard County crude, effective May 21.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (March 17) $1.00
Bellevue (Feb. 24, 1927) 1.25
Urania (March 16, 1927) 1.00
East El Dorado (March 16) 1.00
Other fields .... See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Gulf Refining Co. and Magnolia Petroleum Co.; Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14) $1.20
Grade B .... See gravity table
*Jennings, La. (March 14) 1.05
†Saratoga, Batson, Dayton (March 14, 1927) 1.00
**Markham (March 14) 1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. **The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5) $1.00
†Mirando (March 14) 1.00
Rockdale-Minerva (Milam County) 1.26
*Thrall ....
Callihan (May 15) 1.75
Lytton Springs (Lockhart) See gravity table
Somerset .... See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as north central Texas less 19½ cents per cwt. freight.

†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective March 14)

Rock Creek, Wyo. (March 12. .... $1.25
Salt Creek .... See gravity table
Big Muddy (March 12) 1.25
Mule Creek (May 1) 1.10
Grass Creek, light (March 12) 1.33
Grass Creek, heavy .... .98
Elk Basin (March 12) 1.33
Lance Creek (March 12) 1.33
Poison Spider 1.00
Notches .... .65
Rex Lake (February 23) 1.10
Osage 1.33
Lost Soldier (contract) (May 17) 1.60
Greybull-Torchlight 1.33
Hamilton Dome 1.35
Cat Creek (Mont.) 1.33
Sunburst (Mont.) (October 5) 1.35
Artesia (March 12) 1.00

(Continued on Page 134)

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns June 28.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
Chicago dist. ..	14.0	16.0	...	12.0
Decatur, Ill. ..	14.2	16.2	...	12.1
E. St. Louis ...	13.1	15.35	...	11.2
Joliet	14.4	16.4	...	12.3
Peoria	14.2	16.2	...	12.1
Quincy	14.2	16.2	...	10.9
Davenport, Ia..	16.5	18.5	2.0	12.3
Des Moines ...	16.0	18.0	2.0	12.3
Keokuk	16.5	18.5	2.0	12.3
Sioux City	16.1	18.1	2.0	11.9
Duluth, Minn. .	15.5	17.5	2.0	12.9
Minneapolis ...	14.0	16.0	2.0	12.9
Mankato	17.1	19.1	2.0	12 7
LaCross, Wis ..	17.2	19.2	2.0	13.0
Milwaukee ...	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich. .	16.8	18.8	2.0	12.7
Grand Rapids .	16.7	18.7	2.0	13.6
Saginaw	16.9	18.9	2.0	13.6
Evansville, Ind.	17.0	19.0	3.0	13.0
Ft. Wayne	17.4	19.4	3.0	13.4
Indianapolis ...	17.2	19.2	3.0	13.2
South Bend ...	17.4	19.4	3.0	13.4
Fargo, N. D. ..	17.0	19.0	2.0	14.9
Huron, S. D. ..	15.6	17.5	3.0	13.9
Sioux Falls	17.3	19.3	3.0	13.4
K. C. Mo.	14.9	16.9	3.0	10.6
*Springfield ...	16.8	18.8	3.0	11.5
*St. Louis	15.6	17.9	2.5	11.3
*St. Joseph ...	16.5	18.5	3.0	11.2
Wichita, Kans..	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.8	17.8	3.0	10.8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	16.0	11.75
V. M. & P. naphtha	18.0	13.75
Cleaner's naphtha	18.0	13.75
Stanisol	19.0	.....

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district the following quantity discount schedule is in effect on tank wagon deliveries of gasoline: 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1¼ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
All Ohio points	19.0	21.0	3.0	15.0

SOUTHWESTERN DISTRICT

***Magnolia Petroleum Co.**

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
Dallas, Tex. ...	15.0	18.0	3.0	11.0
Fort Worth ...	15.0	18.0	3.0	10.0
Houston	15.0	19.0	3.0	15.0
San Antonio ...	15.0	18.0	3.0	11.0
El Paso	17.0	19.0	3.0	16.0
Texarkana	15.0	18.0	3.0	12.0
Muskogee, Ok..	14.0	17.0	3.0	09.0
Okla. City	14.0	17.0	3.0	09.0
Tulsa	14.0	17.0	3.0	09.0
Ft. Smith, Ark.	18.0	21.0	5.0	12.0
Little Rock ...	18.0	21.0	5.0	*12.0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons 1¼ cents; over 6,000 gallons, 1½ cents; over 9,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge ..	14.0	17.0	2.0	13.5
Alexandria	15.0	18.0	2.0	14.0
LaFayette	15.0	18.0	2.0	13.5
Lake Charles ..	15.5	18.5	2.0	14.0
Shreveport . . .	15.5	18 5	2 0	13 0
Knoxville, Tenn.	19.5	22.5	3.0	15.0
Memphis . ..	15 0	18 0	3.0	14.0
Chattanooga ..	19.5	22.5	3.0	15.0
Nashville	18.0	21 0	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	18.0	21.0	5.0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
Atlanta, Ga. ...	18.0	21.0	4.0	15.0
Augusta	19.0	22.0	4.0	16.0
Macon	19.0	22.0	4.0	16.0
Savannah	18.0	20.0	4.0	14.0
Birm'h'm, Ala.	18.0	21.0	4.0	15.5
Mobile	17.0	20.0	4.0	15.0
Montgomery ...	19.0	22.0	5.0	16.5
Clarks'le, Miss.	17.0	20.0	4.0	13.5
Jackson	17.0	20.0	4.0	14.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	17.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla.	17.0	20.0	4.0	14.0
Miami	19.0	22.0	4.0	16.5
Pensacola	18.0	21.0	5.0	15.0
Tampa	16.0	19.0	4.0	14.0
Lexington, Ky.	18.0	21.0	5.0	15.5
Covington	20.0	23.0	5.0	15.5
Louisville	19.0	22.0	5.0	15.0

In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Prices in Georgia include one-half cent inspection fee on gasoline and kerosene; in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
Pittsburgh, Pa.	16.0	*21.0	...	14.0
Philadelphia ..	12 0	17.0	...	14.0
Scranton	16.0	*21.0	...	14.0
Allentown . ..	16.0	*21.0	...	14.0
Altoona	16.0	*21.0	...	14.0
Erie	14.0	19.0	...	14.0
Dover, Del. ...	19.0	22.0	3.0	14.0
Wilmington ...	19.0	22.0	3.0	14.0
Spring'd, Mass.	17.0	19.0	...	15.0
Worchester	17.0	19.0	...	15.0
Boston	17.0	19.0	...	15.0
Providence, R.I.	18.0	20.0	1.0	15.0
Hartford, Conn.	21.0	23.0	3.0	15.0
New Haven	21.0	23.0	3.0	15.0

*Includes tax of 2 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the state.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incldes tax of	Tank wagon
Albany, N. Y. .	19.0	21.0	...	15.0
*New York ...	19.0	23.0	...	15.0
Buffalo	18.0	21.0	...	14.0
Rochester . ..	17.0	20.0	...	14.0
Syracuse	19.0	21.0	...	15.0
Boston, Mass. .	17.0	19.0	...	15.0
Augusta, Me. ..	22.0	26.0	3.0	15.0
M'nchest'r, N.H.	17.0	21.0	3.0	15.0
Burlington, Vt.	21.0	23.0	2.0	15.0

*Price in steel barrels.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incldes tax of	Tank wagon
San Francisco .	15.0	19.0	2.0	15.5
Pueblo	16.0	16.0	2.0	15.5
Los Angeles ...	14.5	18.5	2.0	15.5
Reno, Nev. ...	21.0	25.0	4.0	19.0
Portland, Ore. .	16.5	20.5	3.0	16.5
Seattle, Wash..	15.5	19.5	2.0	16.5
Tacoma	15.5	19.5	2.0	16.5
Spokane	19.5	23.5	2.0	20.5
Phoenix, Ariz..	21.0	25.0	3.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incldes tax of	Tank wagon
Atlantic City .	16.0	....	...	14.0
Newark, N. J..	16.0	18.0	...	14.0
Annapolis, Md..	20.0	23.0	4.0	14.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland ...	20.0	23.0	4.0	14.0
Washington ...	16.0	19.0	2.0	12.0
Danville, Va. ..	20.5	....	4.5	14.0
Norfolk	20.5	20.5	4.5	14.0
Petersburg	20.5	23.5	4.5	14.0
Roanoke	20.5	23.5	4.5	14.0
Richmond	20.5	23.5	4.5	14.0
Charleston, W. Va.	19.5	22.5	3.5	14.0
Keyser	19.5	....	3.5	14.0
Parkersburg ...	16.5	19.5	3.5	14.0
Wheeling	19.5	22.5	3.5	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	23.0	4.0	14.0
Mt. Airy	20.0	23.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charl'stn, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	20.0	5.0	14.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incldes tax of	Tank wagon
Omaha	14.25	16.25	2.0	12.25
McCook	17.75	17.75	2.0	13.75
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incldes tax of	Tank wagon
Denver, Colo. ..	18.0	20.0	2.0	14.5
Pueblo	17.0	17.0	2.0	14.5
Grand Junction	21 5	23 5	3.0	18 0
Casper, Wyo. ..	18.0	20.0	3.0	13.0
Cheyenne	19.0	21.0	3.0	14.5
Butte, Mont. ..	22.0	22.0	3.0	19.0
Helena	23.5	24.5	3.0	19.0
Salt Lake, Utah	21.0	23.0	3.5	17.0
Boise, Idaho...	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0
Albu'que, N. M.	21.0	24.0	5.0	17.0

TANK WAGON CHANGES

June 8—Magnolia Petroleum Co. reduced kerosene 1 cent in Oklahoma.

June 13—Standard Oil Co. of Louisiana increased the gasoline tank wagon and station prices 1½ cents in Nashville.

June 15—Atlantic Refining Co. reduced the gasoline tank wagon price 2 cents and the station price 1 cent in Philadelphia.

June 24—Standard Oil Co. of Indiana increased the gasoline tank wagon and station prices 2 cents in Mankato.

June 27—Standard Oil Co. of Louisiana increased the gasoline tank wagon and station prices 2 cents in Nashville.

June 28—Standard Oil Co. of Louisiana increased the gasoline tank wagon and station prices 1½ cents in Shreveport.

CALIFORNIA MARKET SHOWS LITTLE CHANGE

LOS ANGELES, Calif., June 24.—There has been no important change in the California oil market. Prices remain about the same with domestic demand for gasoline showing improvement. In some quarters the unusually large spread between crude prices and retail gasoline prices is causing concern. When the recent gasoline price war was ended and prices returned to their previous levels it is expected the crude situation would possibly improve to where an increase in the crude schedule would be in order. If this had come about, the relation of gasoline prices to crude prices would have again been established at about the usual ratio with good possibility of maintaining them at those levels.

Natural gasoline has shown a tendency to strengthen somewhat of late. Spot sales which were being made at around 7½ cents moved up to 8¼-8½ cents the first of this week and have since eased off fractionally. This strengthening is believed to be due to temporary shortage in supply and is not expected to last.

Figures just released by the American Petroleum Institute covering California oil field operations for May show that during this month total stocks of all petroleum products in the Pacific Coast territory decreased by 1,051,581 bbls. It is very encouraging to note that the two largest decreases in storage were refinable crude and gasoline, 2,052,409 bbls. of the former were taken out of storage and 963,189 bbls. of the latter. If stocks of gasoline continue to decrease at this rate for the next few months, the situation on the coast will improve materially.

Draft on Stocks in California in May Of 1,051,580 Bbls.

LOS ANGELES, Calif., June 25.—Crude oil production in California in the month of May was 19,506,054 bbls., a daily average of 629,228 bbls. as against 19,466,087 bbls. in April, a daily average of 648,870 bbls. This represents a decline in output in May averaging 19,642 bbls. per day.

There was a very considerable reduction in stocks, the total of which at the end of May was 146,247,762 bbls. as compared with 147,299,342 bbls. at the close of April, a decline of 1,051,580 bbls. Stocks of heavy crude, (heavier than 20 degrees A. P. I.) and fuel oil at the close of May were 94,695,285 bbls., an increase of 2,028,550 bbls. but the stocks of refinable crude, 27,365,926 bbls. represented a draft on such stocks of 2,152,409 bbls. during the month. Gasoline stocks, 13,602,175 bbls., showed a draft on stocks of 963,189 bbls. Naphtha distillates (tops) in storage at the close of the month were 3,659,951 bbls., or 81,767 bbls. under the April 30 figure. All other fluid stocks represented 9,924,425 bbls. at the close of May, an increase of 17,234 bbls.

CRUDE OIL PRICES

(Continued from Page 133)

Hogback (N. Mex.) (March 14)	1.10

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective April 13)

Penna Grade Oil in New York Transit Line (New York)	$2.00
Bradford District Oil in National Transit Lines (Pennsylvania)	2.00
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.00
Penna Grade Oil in Southwest Pennsylvania Lines (West Virginia)	2.00
Penna Grade Oil in Eureka Pipe Line lines (Pennsylvania)	2.70
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) March 16.....	1.40
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (March 17)	1.35
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (March 17).....	1.45
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) March 16	1.50
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	.95
Keister (Pennsylvania)	1.10

MIDDLE WESTERN STATES
Ohio Oil Co.
(Effective March 14)

Lima	$1.71
Wooster	1.77
**Saginaw, Mich., Saginaw Sand (May	1.60
Illinois	1.60
Indiana	1.45
Princeton	1.60
Plymouth	1.35
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.10
**Saginaw, Mich., Berea Sand (May 27)	1.95
27)	2.05
†Cumberland, Barren, Clinton and Monroe Counties, Kentucky (March 16)..	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
†Clay County, Tennessee (November 18	2.25
§Oil Springs (Canada)	2.18
§Petrolia (Canada)	2.11

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

*Tuxpam light (f.o.b. Mex. ports).....	$1.35
†Panuco heavy (f.o.b. Mex. ports).....	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.90

*Plus $2.328c tax. †17.631c tax.

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Brief Items for Plant Operators

DUBBS-UNIVERSAL SUIT MATTER OF ACCOUNTING

CHICAGO, June 25.—C. P. Dubbs, son of the inventor of the Dubbs cracking process, has brought suit against the Universal Oil Products Co. for an accounting and claims that under a contract entered into between himself and the Universal Oil Products Co., at least $450,000 is due to him from the profits. He admits the payment to him by the company of $150,000 on account. Officials of the company stated the suit was merely a family disagreement in regard to the distribution of expenses and the resultant amount applicable as net profits.

They state that there is no desire or intention on the part of the organization to minimize the value of the patents assigned to the company by Mr. Dubbs or of his services. When the contract was made in October, 1920, the company was small and its success not certain. It has required much effort and expenditure of money to bring the affairs of the company up to its present standing.

The plaintiff maintains that too great a portion of these expenditures have been charged against the operating expense of the organization, while the management believes its plan was the only one consistent with conservative direction of the affairs of the company. The plaintiff claims that during the past three years the profits of the company have amounted to $4,000,000 and that under his contract, which secures to him 15 per cent of the net profits, his share should be $600,000, of which he states he has received $150,000, as he claims, on account.

EMPIRE PLANS PLANT AT WICHITA, KANSAS

The Empire Gas & Fuel Co. has made detailed plans for the erection of a gasoline plant in connection with a pumping station at Wichita, Kans., as a part of the gas system being built from the Panhandle Field to Kansas City.

The line will have a capacity of 70,000,000 cubic feet daily for the first year and will then be raised to 100,000,000 by increasing the number of compressors. The gas from the Panhandle will be a mixture of relatively dry raw gas and residue gas from the gasoline plants there so it will not yield a high percentage of gasoline at Wichita. The company expects to recover from .1 to .2 gallons of gasoline per 1,000 cubic feet run and at this rate the gasoline production will average near 10,000 gallons per day.

Wichita is being favored in the selection of the plant site because the gasoline will have a ready market in and around the city. The 20-inch line terminates at that point.

TO INSTALL DUBBS UNIT

The British American Oil Refineries, Ltd., has contracted for the installation of a 1,000-bbl. Dubbs cracking unit at its refinery in Toronto, Ontario, Canada.

NEW CRACKING UNIT

The Western Oil & Refining Co. has poured the foundations for a new cracking unit at its Wilmington, Calif., plant. Tankage is in place and the erection of the equipment will be started at once.

GRAVER CORP. INCREASES STOCK

CHICAGO, June 25.—The Graver Corp., manufacturers of refinery equipment and refineries and of the Jenkins process stills, has been licensed by the secretary of state to increase its capital stock from $50,000 to $1,500,000 and 50,000 shares of no par value.

JAPANESE REFINING INDUSTRY RAPIDLY ADOPTING NEW METHODS

By J. B. Waldo

CHICAGO, June 25. — The petroleum industry of Japan is in a state of transition, changing from new to old methods and developing with the steady increase in the demand for petroleum products, according to Nobuo Iitaka, a representative of the Nippon Oil Co., Ltd. Mr. Iitaka is in this country to study American refining methods and other phases of petroleum operations. He spent several days in this section and while here gave some interesting data relative to the status of the petroleum industry in Japan That the older methods have not been entirely outgrown, according to Mr. Iitaka, is shown by the fact there are still the old-time native refineries with a capacity of 50 bbls. of crude in which the 10-bbl. kettle stills may be found rendering a useful service. Almost side by side with these miniature refineries are those of the leading oil companies equipped with cracking stills and the latest devices for the production of almost all products, including lubricating oils. Peculiar local conditions, which include the low labor cost as well as the rapid expansion of the consumption of gasoline and other products may make it possible to continue the operation of the smaller plants for some time, but the superior efficiency of the modern refining processes is bound to bring about the ultimate supremacy of the larger organizations.

One of the problems of the Japanese oil refiner, according to Mr. Iitaka, is a supply of crude. Crude is produced in small quantities in several districts and also in the Island of Talwan, formerly Formosa. The average yearly production of recent years has been about 2,000,000 bbls. of crude. Very recently a real gusher was struck in the Island of Talwan which flowed at the rate of 2,000 bbls. daily at the start. This is an event of great importance, and if further drillings develop a real oil field, the crude will be a veritable boon to the Japanese industry. Of the native crude, at least 90 per cent is produced by the Nippon Oil Co. Japan supplements its own production by imports of crude for its refineries, the average imports of crude amounting to approximately 1,500,000 bbls. annually, making a total supply of crude oil of 3,500,000 bbls. a year. Most of the crude is imported from California and from the Dutch East Indies. Some of the crude, but only a small part, is still produced by the old pit method from shallow sands, but the bulk of the production is from drilled wells, usually ranging in depth from 750 to 1,800 feet, although it was stated that three wells had been drilled to a depth of 6,000 feet, largely as a matter of observation and testing for deeper production. The fields are usually well defined anticlines, often greatly faulted.

Thirty Refineries

There are about 30 refineries of all descriptions in Japan, the largest having a capacity of 3,000 bbls. daily throughput and the smallest 50 bbls. The Nippon Oil Co., Ltd., has three refineries, which have a capacity of 3,000 bbls. daily. The Nippon company operates several Dubbs units and one large Cross cracking unit.

(Continued on Page 141)

AMONG THE TECHNICAL MEN

D. V. Eells, superintendent of the Okmulgee, Okla., plant of the Empire Refineries, Inc., is one of the younger operators in Oklahoma although his practical experience has covered a period of several years. His training started during a vacation in 1914 when he did odd jobs around the Cushing Refining Co.'s plant at Cushing, Okla., now owned by the Empire. Until 1916 he continued to hold various jobs at the refinery and in the field as gauger. In that year he joined the Empire organization and remained at this newly-purchased plant. Shortly afterwards he was transferred to Tulsa, Okla., to serve as an assistant to the general superintendent. Here he gained a broader viewpoint of the operations, including the problems involved in the operations of several plants and those of sales, transportation and marketing.

D. V. Eells

He has been active in the adoption of the newer methods of refining and is a student of refinery statistics. In 1925 he was made assistant superintendent of the Ponca City, Okla., refinery of the Empire. On February 1 of this year he was given the superintendency of the Okmulgee refinery. Although this plant is not the largest of the Empire group, it is the most complete in its operations. In addition to the regular products special absorption oils, naphthas, transformer oils, compounded lubricating oils and greases, cylinder stocks, bright stocks, and waxes help to complicate the plant operation.

Along with his refinery work, Mr. Eells finds time to play an active part in the civic enterprises at Okmulgee. Except for a six months' leave in 1918, during which he was serving in the army, his work with the Empire Refineries, Inc., has been continuous for 11 years.

LOUISIANA REFINING PERSONNEL CHANGES

SHREVEPORT, La., June 25.—General changes in the personnel of the refining department of the Louisiana Oil Refining Corp. of Shreveport have been announced by M. J. Grogan, vice president, following the transfer of B. P. Crittendom, manager of refining, to the executive department as assistant to the vice president. The latter position is a new office created with the steady expansion of the company.

S. Barna, superintendent of refineries, has been promoted to the position of manager of refineries to succeed Mr. Crittendom. Mr. Barna's former position has been filled by F. N. Williams, formerly superintendent of the Bossier City plant.

Other changes and promotions are: W. F. Dickerson, general foreman at the Gas Center plant, has been made acting superintendent of that plant. Walter McCallum, formerly assistant superintendent at Gas Center, has been made general foreman of cracking plant operations at Bossier City. Herbert Reed has been promoted to assistant superintendent of the Bossier City plant, and G. Wilbur has been appointed general foreman of treating, loading and shipping.

W. Godfrey and J. D. Bannon have been appointed night superintendents at the Bossier plant. Mr. Bannon, who formerly was general foreman of the Bossier topping plant, has been succeeded by Arthur DeLong. W. D. Barlow has been assigned to succeed Mr. Dickerson as general foreman at Gas Center.

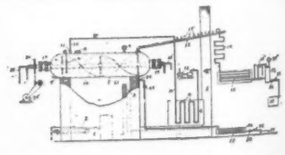
CROSS SECURES REFINERY

CHICAGO, June 25.—The Henry R. Cross Co., extensive marketers of this city has secured the refinery located at Joliet, this State, and according to George H. Fox, vice president, it will be made ready to operate. The refinery was a war plant and immediately after the close of the war was operated as a lubricating plant by the Warren Oil Co. of Pennsylvania. Later the refinery was bought by local people, who operated it for a short period as the Joliet Refining Co. Mr. Fox stated that at present his company was not ready to state just what it proposed to do with the refinery, except that it would be increased as to capacity and brought up to date.

Recent Patents

(Additional Patents on Page 172)

1,629,810. Process of Producing Gasoline. Horace B. Setzler, Coffeyville, Kans., assignor to the National Refining Co., Cleveland, Ohio, a corporation of Ohio. Filed June 9, 1916. Serial No. 102,651. 4 Claims. (Cl. 196—68.)



1. A process involving the separation of carbon from gas oil to produce gasoline, which consists in subjecting the gas oil to pressure distillation in a volume maintained substantially constant under conditions involving a pressure of from 50 to 100 pounds, temperatures of from 700 degrees to 750 degrees Fahrenheit, within a highly heated pressure space approximately equal to the volume of gas oil under treatment; meanwhile subjecting the gas oil to suitable means for concurrently scouring the bottom of the still and advancing the treated hydrocarbons to the point of withdrawal, substantially as set forth.

Oil Securities Active and Heavy

Drives on Marland and Phillips Force Them to New Lows. Seminole Peaks Influence Market

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 27.—Oil securities were active and heavy during the past week. Continued drives on Marland and Phillips forced those issues to new lows. The chief oil development apparently in the minds of traders was the new peak being registered by Seminole almost daily.

It is stated by well-informed oil men that the daily average production of crude petroleum in the United States could be increased by at least 500,000 bbls. within a few weeks by means of opening up shut-in production, using artificial methods to stimulate production in all existing fields and by hastening the development of prospective areas. As accurate as this statements appear to be, the opinion is held by some that it is not correct to use this as a basis for pessimism. It would be just as right, they maintain, to count every available ton of coal in sight as a factor in favor of lower coal prices.

Production and Overproduction

The point that should be emphasized is that the price of crude oil is not fixed so much by the potential supply of crude petroleum as by the amount actually being brought to the surface compared with the consumption at the same time. If we counted the consumption over the next 10 years, without taking into account the actual present demand, as a price factor, there would be not the slightest question as to oil prosperity. A prosperity based on future expectations, however, would be as groundless as a depression based on the amount of oil that could be produced if the industry wanted to produce it.

British Oil Opinion

Lord Bearsted, chairman of the Shell Transport & Trading Co., stated at the annual meeting of the stockholders that overproduction of oil has not yet reached the peak, but real competition is finding the most economical way of reaching the consumer. He said adverse public opinion is resulting in decreasing the sale of Soviet oil in Great Britain, and added that in his opinion, the extraction of gasoline from coal is not a commercial possibility, especially at current low prices.

E. L. Doheny Pessimistic

It has been a long time since Edward L. Doheny, formerly president of the Pan American Petroleum & Transport Co. and Mexican Petroleum Co., has taken a deeply pessimistic view of oil conditions. Mr. Doheny is now president of the Pan American Western Petroleum Co. He says: "The oil situation is bad and difficult to handle. The demoralization of oil markets can not result in any good to the industry or public. . . . There is no prospect of the crude oil and gasoline excess ending in the near future. Oil men who in the past looked with equanimity on thoughts of insufficiency of supply have been justified and overproduction of today is the result of better methods. The production of gasoline now is not 100 per cent of what could be produced, nor is crude production 100 per cent capacity."

Anglo-American Oil

In remarks to stockholders accompanying the annual report for 1926, F. E. Powell, chairman of the Anglo-American Oil Co., states that business continued to expand and profits to increase, both being the largest in the history of the company. The showing for the year was affected by the general strike and the coal strike in Great Britain, partly to the company's advantage in the increased consumption of oil for domestic use and of gasoline, fuel and gas oil for transportation and industrial purposes. Sales of lubricants, however, declined owing to many manufacturing plants being partly or entirely closed down.

The $8,000,000 of 4½ per cent notes outstanding at the end of 1925 were paid off and renewed as to $6,000,000, which are still outstanding. Of this amount $2,000,000 is to be paid off July 1, 1927, and equal amounts on July 1, 1928, and July 1, 1929. It was hoped that these payments could easily be taken care of out of surplus, but demands from other directions have so increased that some different arrangements will have to be made. The company has no other indebtedness or bank loans outstanding but there is a guarantee of £702,295 bonds issued by the British Mexican Petroleum Co., Ltd., a subsidiary, which will be taken care of out of that company's resources.

Early in 1926, Mr. Powell continues, 119,275 additional shares were issued in exchange for shares in Glico Petroleum Co., Ltd., which had been drawing its supplies from the Anglo-American Oil Co. for many years. The closer connection is considered in the interests of the business and should yield satisfactory results.

The plan for subscription by employes to the company's stock was put into operation toward the end of 1926 and over 5,400 employes took advantage of the company's offer, 7,185 shares being issued. By the end of the three years' term of purchase it is hoped that practically all of the shares authorized for the purpose will have been acquired.

The net result of the year's trading was a net profit of £1,635,235, after interest, provision for income tax, expense of issuing of new capital and gold notes and depreciation. This was in excess of any previous year though the early part of the year was unfavorable, and compared with £1,393,425 in 1925. Surplus at December 31, 1926, after payment of the final dividend for 1925 of £500,000 and interim dividend for 1926 of £300,538 was £2,137,522, an increase of £834,696 over the preceding year. Out of this credit balance a final dividend for the year 1926 of 2s 6d a share, free of British income tax, was paid May 31, amounting to £516,990, leaving a balance of £1,620,532 to be carried forward. While a larger dividend might have been paid May 31, directors considered that the increased demands for capital expenditure made it inadvisable.

"The absorptive power of this business in the way of capital requirements is only equaled by the growth of the business itself," Chairman Powell states. "In order to provide the capital necessary for these increases and to retire the outstanding notes when due, it is proposed in due course to make a note issue which will be spread over a longer term of years so as to enable the repayments to be made without interfering with the growth of the business.

"The American outlook still favors very low prices which means that prices here must also remain low until the unwieldy surplus hovering over the market is disposed of. Meantime, the business of this company, being confined to ship owning and marketing, is in more fortunate position than that of those companies engaged also in crude oil production and refining, as we avoid the violent fluctuations of the primary markets. Out stocks on hand at the end of the year have been sold and we are now working on the basis of current reduced markets. It is hoped, therefore, that the stability of the business will be continued and that the showing for the future will be as satisfactory as in the past."

Middle States Oil

The next step in efforts to reorganize the Middle States Oil Corp. is expected to be a petition to the receivers for permission to have engineers, representing the protective committee formed by R. W. Jackson, make an examination of the properties. The committee formed last November, consists of A. W. Gieske, chairman; R. W. Jackson, vice chairman; C. H. Huston, chairman of the Transcontinental Oil Co., and A. C. Woodman, president of the Acewood Petroleum Co. Other members are expected to be added later, probably representing banking interests.

Another reorganization committee, formed in February this year, consists of H. S. Fleming, chairman of the stockholders' protective committee; F. B. Cahn, representing serial note holders; J. E. Sagus, representing bondholding group; L. J. Hunt, for Texas creditors, and J. S. Sheppard, counsel for the minority holders of the Turman Oil Co., a subsidiary of Middle States Oil.

Reiter-Foster Oil

The directors of the Reiter-Foster Oil Corp. have called a special meeting of stockholders to be held June 28 to vote on the proposed increase in capital stock to 400,000 no par value shares, from 250,000. On the ratification of the increase, stockholders will be given the privilege of subscribing to the additional stock at $5 a share on the basis of three shares for every four shares held, or a total of 160,107 shares. That portion of the stock not taken by stockholders will be underwritten at the subscription price. There are 213,477 shares outstanding.

Paul S. Ache, of Amarillo, has been elected president and Charles G. Schirmer, of Boston, a director.

Proceeds from the sale of additional stock will be used for extension and expansion. Provisions will be made for carrying out the operations of the company, as well as permitting acquisition from Paul S. Ache, the new president, of 50,000 acres in large blocks in Wyoming, Colorado, Texas and New Mexico.

Shell Transport & Trading

The balance sheet of the Shell Trans-

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. June 27	Clos. Quot. June 20	1927 High	1927 Low	1926 High	1926 Low	1925 High	1925 Low
Amerada Corp.	..	30	31⅞	37⅜	27⅝	32⅞	24⅜	..	..
Atlantic Refining, com.	100	111¾	120¼	125⅝	107	128⅜	97	117½	95½
Barnsdall "A"	25	25½	28⅛	35½	23⅛	32½	23½	33½	18⅜
California Petroleum, com.	25	22	24	32⅞	21½	38⅛	30⅞	34⅜	23⅜
Houston Oil	100	150⅛	159⅜	166½	60⅛	75	50¼	85	59
Independent Oil & Gas	..	18⅝	19½	32¾	17⅝	34	20¼	41⅜	13½
Louisiana Oil	10	11⅝	12½	18⅛	11½	19⅝	12	23¾	13⅜
Maracaibo	..	13	14	22⅜	15	27¾	18⅜	35½	20⅜
Marland	..	31⅝	35⅝	58⅛	31	63⅜	49¼	60⅛	32⅝
Mid-Continent Petroleum	..	29⅜	30⅞	39⅜	29	41	25⅜	38	25⅜
National Supply	50	79⅜	80	95⅜	76	84⅞	55½	71	54⅜
Oil Well Supply	25	37⅜	37¾	44⅜	31¼	36	30	38	33⅜
Pan American, B	50	56¼	59	66⅜	56⅜	72⅜	56⅛	83⅞	59½
Pan American, Western B	..	20½	21½	37⅝	19	46	34	94⅜	37¼
Phillips Petroleum	..	38⅜	43⅜	60¼	38¼	54⅞	42⅛	47⅛	36¼
Producers & Refiners	50	24¼	29⅜	33⅞	16⅜	26	11	32⅝	12½
Pure Oil, com.	..	25⅜	26⅝	33½	26	31	25⅜	33⅜	25½
Royal Dutch, N. Y., sh.	13.40	48½	49⅞	54½	48½	57⅜	49⅜	57⅜	48¼
Shell Transport	10	*42	*44¼	49	43⅝	48⅞	42	49	39⅜
Shell Union, com.	..	26½	27½	31⅜	25⅞	30⅞	24	28⅜	21⅝
Simms Petroleum	10	15½	16¼	22⅜	15⅝	28⅝	16½	28½	18⅜
Sinclair Consolidated	..	16½	17¼	23⅜	16⅛	24⅞	16⅜	24⅞	17
Skelly Oil	25	24⅝	27⅛	37⅜	25	37¼	27	32½	21⅜
Standard of California	25	51⅜	53⅞	60⅜	50⅜	63½	54	67¼	52½
Standard of New Jersey, com.	25	36¼	36⅜	41⅜	35⅛	46⅜	37½	47½	38⅜
Standard of New York	25	30	30⅜	34⅛	29⅞	47¼	30⅝	48⅝	40
Sun Oil Co.	..	32½	32⅜	34⅞	30	41⅝	30⅛	43⅞	38½
The Texas Company	25	45½	47⅞	58	45	58	48	55	43⅜
Texas Pacific Coal & Oil	10	13⅝	15½	18⅞	12	19½	12⅛	23⅜	11
Tide Water Associated Oil	..	16¼	17¼	23½	15½	21	17	..	..
Transcontinental	..	8¼	8⅜	8⅜	3⅜	5½	3	5⅝	3½
Union Oil of California	25	40	42½	56½	39⅝	53⅜	37¼	43⅝	33½
Union Tank, com.	100	113½	113	115	95	120⅜	84¼	‡134	118
White Eagle Oil & Refining	..	23⅛	23¾	27½	22	29¾	25⅛	21¾	25⅝
Standard Oils									
Anglo-American Oil	£1	*19	18½	21⅝	18⅜	19¾	16½	26¾	17½
Borne Scrymser	25	*56	60	69	49½	75	65	‡240	205
Buckeye Pipe Line	50	*56	58	58	45	59½	42	72	63½
Chesebrough Manufacturing Co.	25	*103	*107	107	76½	81⅛	63	74	98¼
Continental	10	17⅛	18	22⅜	17½	25⅞	19¼	31⅛	21⅞
Cumberland Pipe Line	100	*89½	91	‡137	106	137	102	156	128
Eureka Pipe Line	100	*54	*58½	56¼	47	53¾	43	96	61¼
Galena Signal, com.	100	*7¾	*8	13½	7½	32½	9⅞	68½	23½
Humble Oil & Refining Co.	25	56¾	59	62¾	54	99⅝	52	99	42½
Illinois Pipe Line	100	*141	144	150	123¾	144	131	154½	124
Imperial Oil	..	42¼	43⅝	47	37¾	39¾	32½	39¼	27¼
Indiana Pipe Line	50	66½	68½	72½	61	68	52¼	84	87½
International Petroleum Co.	10	28⅝	30	34⅞	28½	35¼	28¾	25⅝	22⅛
National Transit Co.	12.50	15¼	15	17½	13⅝	30¾	27¼	25½	16½
New York Transit	100	*33	*36	36	31¼	51½	27½	70	50
Northern Pipe Line	100	*85	88	88	70	80½	64	88	67½
Ohio Oil Co.	25	58⅝	59¼	64¼	52	67¾	55¾	75¼	60
Penn-Mex Fuel	25	27¼	*29	31	12	24¼	15	44	19
Prairie Oil & Gas	25	47½	48⅞	55½	45⅝	60¼	48	65½	45⅞
Prairie Pipe Line	100	*180	182	185	132	137½	122½	129¾	105
Solar Refining Co.	100	182	182	‡201½	185	212	184½	159	200
South Penn Oil	25	*35	35	31½	34½	50	35	‡197	139
Southwest Pa. Pipe Line	100	*65	*66	77	55½	56	47½	84	50
Southern Pipe Line	50	*17¼	*18	‡27¼	24	27	24	‡103	63
Standard of Indiana	25	66⅞	67⅜	74¼	64¼	10½	61⅝	70¾	69¼
Standard of Kansas	25	15⅜	16⅜	20⅞	15⅝	36½	16½	46	30¼
Standard of Kentucky	25	112½	112¼	122¼	111⅝	134⅜	108	137	114⅜
Standard of Nebraska	25	44	44⅜	49½	45	51¼	42	‡270	231
Standard of Ohio, com.	100	74½	*74	‡354	294	362	192½	369	338
Swan & Finch, com.	25	*18	*16	17	15	21	18	27	12
Vacuum Oil	25	132	128¾	134	95⅛	109⅜	94⅛	169½	80½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	90¼	93	96½	86¼	95	82½	98¼	63½

*Bid, no sales. ‡Old stock. †New stock.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

June 27	58.99	May 23	57.89	Apr. 18	57.42
June 20	60.46	May 16	58.10	Apr. 11	57.37
June 13	59.91	May 9	58.08	Apr. 4	56.63
June 6	59.27	May 2	57.13	Mar. 28	58.51
May 28	58.68	Apr. 25	57.03	Mar. 21	58.03

port & Trading Co., Ltd., as of December 31, 1926, compares as follows:

Assets

	1926	1925
Property account	£26,902,728	£23,929,707
Current and other accounts	119,382	100,082
Accrued dividends	4,637,853	4,159,359
Investments	5,183,088	7,452,311
Cash	235,386	610,182
Total	£37,078,439	£36,252,141

Liabilities

5% 1st. preferred stock	£2,000,000	£2,000,000
7% 2nd preferred stock	5,000,000	5,000,000
No. ordinary shares	19,654,274	19,401,644
Reserve account	5,000,000	5,000,000
Ordinary dividends payable	*4,913,570	4,367,437
Current and other accounts	45,331	57,096
Dividends unclaimed	63,945	22,588
Dividends accrued	170,833	170,833
P. & L. Surplus	230,486	232,543
Total	£37,078,439	£36,252,141
No. Par £		

*Includes £1,965,428 payable January, 1927, and £2,948,142 payable in July, 1927.

Transcontinental Oil

A party of officials of the Transcontinental Oil Co. have left for an inspection trip of the company's properties in Pecos County, Texas, operated jointly with Ohio Oil Co. They deny any negotiations for the sale of Transcontinental to any other company.

For the present no new financing is contemplated, according to officials, but in view of the large potential production in the area it may later be necessary to lay a major trunk line to the Gulf Coast. The inspection trip, therefore, is interpreted by some as a move to acquaint people interested in Transcontinental Oil with the property in case a major investment like a trunk pipe line, alone or with its partners, may later become necessary.

Tide Water Associated.

Expectations are that the Tide Water Associated Oil Co. will reduce its dividend as a result of similar action recently by the Tide Water Oil Co., a subsidiary, which cut the quarterly rate from 37½ cents to 20 cents a share.

Warner-Quinlan Co.

The Warner-Quinlan Co. is planning to issue $1,500,000 of 6½ per cent cumulative preferred stock, convertible into common at 40, of which $500,000 is to be exchanged for existing $500,000 of 7 per cent preferred. The balance of $1,000,000 will be for the acquisition of 54 gasoline service stations and 31 bulk stations, mostly in New York and New Jersey. Negotiations for the purchase of these have been completed. It is said that there will be no public offering in connection with this acquisition.

Dividends Declared

The Consolidated Royalty Oil Co. declared its regular 2 per cent dividend, payable July 15. The Mountain & Gulf Oil Co. announced the regular quarterly dividend of 2 per cent and an extra dividend of 1 per cent payable July 15. The New Bradford Oil Co. has announced a dividend of 12½ cents per share payable on July 15. The latter two firms are Salt Creek companies with operating agreements with the Midwest Refining Co.

MINOR CHANGES IN OKLAHOMA MARKET

(Continued from Page 36)

tice of quoting for 30-day periods explain that some of their customers demand it. Several of the large jobbers of the middle west always like to have at least a part of their gasoline supplies purchased in advance and usually ask for quotations toward the end of a month for the following month.

Very rarely are these buyers willing to pay more than the spot market for any future purchases. When the market is considered weak they generally are able to get concessions under the spot market for future business. These transactions obviously tend to overemphasize the weakness and hasten the price declines on the spot market.

July Market

As June is brought to a close it is apparent that the July gasoline tank car market in Oklahoma will depend on developments after the month opens. If the price advances it will be due to an exceptionally heavy demand rather than to any curtailment of the supply. So far as the Mid-Continent is concerned there is no disposition on the part of the refiners, considered as a unit, to curtail their crude runs to stills with the view of limiting the amount of gasoline offered on a market already groggy with excess material.

Cases are reported in which refiners have curtailed their operations due to the fact that they are not able to secure crude supplies. This situation is said to be especially acute with three or four Kansas plants. Outside of the Seminole Field of Oklahoma and the Panhandle of Texas there are no important sources of new crude supplies. Some of the producers in the older fields, due to the low prices, are refusing to sell at the posted schedules. Premium paying on the part of the refiners has been necessary to obtain crude from these operators.

However, any curtailment of crude runs by a few refiners has at least been offset by increases in others. The demand for Seminole crude has been so strong that premium paying is also reported there. This tightening in the crude market is entirely speculative. Refinery operations are not generally profitable at present crude oil and refined oil prices but many buyers are actively soliciting new crude supplies for storage in the belief that posted crude schedules will later be advanced.

Increased Demand

With no decrease in refinery output expected and considerable storage on hand refiners are looking to an exceptionally heavy gasoline demand in July to bring about a stronger market. As has been explained in these columns before, there are many in the trade who account for the present low gasoline as being partially due to the fact that weather conditions have not been generally favorable to maximum gasoline consumption. Weather is rarely a factor in July consumption so that the sellers are now predicting an increase greater than the average so far this year. In this connection the refiners are calling attention to the fact that with July 4 coming on Monday there will be a three-day holiday for motoring.

Gasolines and Naphtha

The price situation in regard to the 58-60 U. S. Motor gasoline has been explained. There were no price changes in the higher gravities, the movement of which was confined to the domestic channels. Buyers of 400 endpoint gasoline said they were able to make their purchases at 7 cents from refiners who were quoting U. S. Motor at 6¾ cents. The demand for 56-58 gasoline with a 450 or 437 endpoint has increased. The low on these grades is 6⅜ cents. With the prices on natural gasoline again low it is expected that there will be a greater demand for naphtha from sellers of blends.

Kerosene and Distillate

The demand for either kerosene or distillate has not improved sufficiently to strengthen either product. Refiners continue to have inquiries for distillate contracts. One large contract is reported to have been closed during the past week with a middle western jobber. The contract is based on the spot market with a 3-cent minimum and a 4½-cent maximum. There is also considerable buying of distillate for storage by jobbers.

Fuel Oils and Gas Oils

Fuel oils and gas oils probably were the strongest products of the Oklahoma list during the past week. There were no general price changes. New purchases were not heavy for the reason that most refiners were not willing to sell additional material at present prices.

There is considerable speculation as to the future of the gas oil market. Most of the gas oil is being held at a minimum of 2¾ cents although enough business is being transacted at 2⅝ cents to constitute the low of the market. The refiners holding for the higher prices expect eventually to use the material as charging stock in their cracking operations or sell it to other refiners who will utilize it for that purpose. On the other hand, some of the large industrial consumers of gas oil are waiting for lower prices. The trend in crude oil and gasoline prices will determine whether the buyer or seller will win out.

The contract movement of fuel oil is satisfactory and previous sales last week about cleaned up all the material available for shipment in June. No weakening in the July fuel oil market is expected.

Natural Gasolines

There is very little difference in prices on the five grades of natural gasoline. Grade A was bringing the top price of 4½ cents the first of the week and the low on Grade C was 4¼ cents. The more active demand was coming from small buyers of from 1 to 10 cars.

Wax and Lubricants

Sales of 124-126 wax for export were made at 2⅜ cents during the past week. It is believed that refiners will continue to be actively offering material rather than holding for higher prices as they have in the past. There were no changes in lubricants.

Houston Natural Gas Franchise Approved By City Officials

HOUSTON, Tex., June 27.—Embodying several points not included in the franchise with the Houston Gas & Fuel Co., the franchise for the Houston Natural Gas Co. has passed its first reading in the city council.

The franchise for the Houston Pipe Line Co., parent company of the Houston Natural Gas Co., which will furnish gas at wholesale rate to the distributing company, also passed first reading. May 14 E. H. Buckner, president of the Houston Natural Gas Co., presented a tentative draft of a franchise which his firm desired with Houston. Mr. Buckner's action was the result of the city council's action in permitting the Houston Gas & Fuel Co. an increase in rates for its natural gas. This increased rate was 75 cents for a meter and 80 cents per 1,000 feet.

Mr. Buckner maintained his firm could sell natural gas to Houston at the former rate charged by the Houston Gas & Fuel Co.—this rate being 50 cents meter charge and 65 cents per 1,000 feet. Mr. Buckner said his firm could make money at that rate for the next 10 years.

In the main, the franchise with the Houston Natural Gas Co. is similar to that with the Houston Gas & Fuel Co. One difference is that section relating to the firm supplying Houston with gas at the 50-65 rate for 10 years. For fear this provision might be found unconstitutional later, it was specified that if it was found to be illegal the price contract would not be affected.

Another difference is the statement that if at any time within 10 years the company should increase its domestic rate above the rate set forth, such action shall, at the option of the city council, immediately forfeit and terminate this franchise and all the company's rights.

"Nothing in this franchise, however," the franchise reads, "shall limit the right of the city council to fix, within lawful and constitutional limits, a lower rate than the rate above prescribed, provided the facts and conditions then existing justify such reduction in the domestic rate."

All gas sold outside of the city of Houston shall be kept on the records for the city council or its authorized agents to inspect.

Another provision not included in the Houston Gas & Fuel Co. franchise states that the city of Houston owns the Magnolia Park gas plant, and that it may own other gas plants in municipalities to be annexed to the city and that should the city request the company to acquire this gas system or systems, the company agrees to purchase same and operate them under the terms of the franchise.

Another clause in the new franchise not to be found in the franchise with the existing company states "no consolidation, sale, purchase, combination or agreement affecting the sale or distribution of gas within the city limits can be made or entered into with any competing company within the city limits unless the same is authorized and approved by the city council.

For the franchise the distributing company will pay the city 2 per cent on its annual gross return and $500 cash annually.

One of the major points which held up the draft of the franchise was the demand of the city that the Houston Pipe Line Co., which will furnish gas to the Houston Natural Gas Co., come inside the city limits so as to be under jurisdiction of the city council. After numerous conferences, the Houston Pipe Line Co. decided to agree.

Following the presentation May 14 of the tentative franchise permitting the Houston Natural Gas Co. to sell gas at a 50-65 rate, the Houston Gas & Fuel Co. reduced its rate to its former figure—giving as the reason that the Houston Gulf Gas Co., which furnishes it gas at wholesale price, has reduced its rate, permitting it to make a return on its investment.

The new franchises should be officially granted in the next two weeks, and within a month actual laying of pipe and selling of natural gas by the Houston Natural Gas Co. in the city of Houston should be started, it was said.

THOMAS KING, AGED 84, PIONEER DRILLER, DIES

Thomas King, aged 84, who fell dead on a street in Muskogee, Okla., last week, was one of the earliest oil field workers in the United States. Mr. King was born near Saxonburg, in 1843. His grandfather, Thomas King, had acquired a certain fame as a "medicine man" in his day by the sale of a black oily fluid known as Kier's Rock Oil. This fluid was a by-product of the salt well drilling in which Kier and his two sons were engaged. At that time salt was worth 80 cents a barrel and the business of drilling salt water wells and boiling the water down to the salt was profitable. It was only as a sideline that Kier caught the petroleum which was encountered in some of the wells, refined it, bottled it, and sold the product as medicine.

Then the Drake well came in in 1859, the first oil well. Petroleum as a medicine was a drug on the market. Kier, Thomas King's father, and Mr. King himself, then a young man, went into drilling in the district where the Drake well was located. All three were practical drillers. They became associated with William Smith, a blacksmith, who made the tools for the Drake enterprise and later for Kier and his family.

Mr. King later drilled wells along the Muskingum River near McConnellsville in 1865, and in West Virginia in 1860.

With the opening of the oil fields in Oklahoma, Thomas King left his work in the fields of the eastern states and moved to Muskogee. Until 1904 he was superintendent of production for the A. B. Smith Producing Co. In 1907 he worked for a short time in Petrolia, Tex. A year later he retired.

He was an honor guest at the exposition convention of the Drake Memorial Association, held in Tulsa, in 1923.

DEFERS BUILDING AT ST. LOUIS

CHICAGO, June 25.—The Johnson Oil & Refining Co., which recently announced its plan to build a bulk plant at St. Louis, Mo., states the project has been temporarily held up and in the meanwhile a refinery sales office has been established under the management of E. J. Eddy, who has been selected as the manager of the bulk plant when it is ready to operate, and will in the meanwhile sell in tank car lots. President Homer Johnson is visiting the refinery at Cleveland, Okla., and looking over the Oklahoma industry.

OIL STORAGE IN ICELAND

Copenhagen reports that a new Icelandic company, supported by the Shell company, intends to build a petroleum station near Reykjavik, with three petroleum tanks, with a total capacity of 8,000 tons. It is also intended to build an oil tanker of 6,000 tons for direct traffic between America and Iceland. There are also to be tank stations on the west, east and north coasts of Iceland.

Boycott of Soviet Oil Trade Factor

Enlarges Market for American and British Products in United Kingdom. Russia to Seek Outlet Elsewhere

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., June 25.—Events in England are pointing toward changes in the petroleum industry of the world, the result of which it is difficult to predict at this time.

Copies of the London Daily Mail show what is happening in part. In a recent issue there is a list of 20 wholesale distributors of motor spirit in the United Kingdom who have supplied that newspaper with written guarantees that their supplies are not of Soviet origin.

This means no more or less than a general boycott on the oil of Soviet Russia, and becomes not only an important element in the political situation between these two nations, but, also, an uncertain influence in the oil industry. Of course, Soviet Russia, it is recognized among important exporters of petroleum from the United States, will undertake in some way to get rid of its vast production of petroleum, which as in the case of Mexico, is the chief and almost only thoroughly reliable source of revenue the government has.

The fact that the Standard Oil and other American companies are joining in this boycott of Soviet Russian oil in Great Britain may be taken as an indication that no danger is scented toward the American industry as a result of this action.

This boycott of Russian oil products is being aimed particularly at gasoline. Because of this fact, the United Kingdom is gradually being placarded with notices posted in gasoline service stations, informing the public that no Soviet oil products are dispensed in the station. As the boycott is political, the oil stations show vigilance in having notices prominently displayed.

Among the prominent oil distributors that have taken part in this boycott are the Shell, Anglo-Persian, Standard Oil Co. and affiliated concerns as well as a number of other American companies.

The boycott of Soviet oil is of special interest in view of the repeated statements that have been made in various quarters to the effect that considerable purchases of Russian motor spirit have been made by large distribution companies for sale in the United Kingdom.

Effect on World Prices

Statistics that show the vast amount of British imports of the principal Russian oil products make it very clear that the boycott of those products at this time will not only open up an additional market for the products of British and American oil companies, but will also put the Soviet Government on its mettle to discover other markets as an outlet for its products.

What, if any, effect this will have on world prices for these products in the markets to be affected by the Russian output is a problem for speculation. However, it seems to be well understood that by depriving the Soviet Russian Government of the British market there will be a stabilization of prices, and to that extent will prove a benefit to the American exporters of oil.

In view of the British boycott against Soviet Russian oil in Great Britain there is especial interest in statistics that show the Anglo-Russian oil trade from 1913 down to 1926, when the imports of gasoline reached over 37,000,000 gallons. This was about 18 per cent of the total British imports. During the first four months of the present year there was a phenomenal increase in these imports, both in gasoline, kerosene, lubricating oil and gas oil.

Only by a careful study of these statistics can an understanding be had in respect to the importance of the present British boycott on oil products from Soviet Russia.

Importance of Change

Before the war there was a substantial export of gasoline, kerosene and lubricating oil from Russia to the United Kingdom, but during the war period this dropped off sharply, and even in 1921 the recorded imports of the principal petroleum products from Russia into the United Kingdom consisted of only a small quantity of kerosene and lubricating oil. From 1921 on, however, there has been a very sharp increase annually in the imports of Russian oil, particularly gasoline and kerosene.

In 1913 a little less than 15,000,000 imperial gallons of Russian gasoline were imported into the United Kingdom, although this represented only about 15 per cent of the total imports, of this item. In 1926 the imports had risen to over 55,000,000 imperial gallons, although this represented only about 10 per cent of the total gasoline imports during that year. A much larger comparative growth has been shown in the kerosene trade.

In 1913 a little less than 10,000,000 gallons of Russian kerosene were sold in the United Kingdom, this representing about 6 per cent of the total kerosene imports. In 1921 the total of this trade was a little more than 1,000,000 gallons but in 1926 the imports had risen to over 37,000,000 gallons, representing about 18 per cent of the total British kerosene imports. In the first four months of 1927, according to preliminary figures, over 17,000,000 gallons of Russian kerosene were imported, or at the rate of over 50,000,000 gallons for the year.

One important explanation of this rapid growth in British purchases of Russian kerosene is the extension of cracking, for which considerable quantities of Russian kerosene are understood to be used in the United Kingdom.

Lubs and Gas Oil

The trade in Russian lubricating oil has not expanded comparably to that in gasoline and kerosene, and in fact the largest post-war imports of Russian lubricating oils into the United Kingdom was in 1924, when a little over 5,000,000 gallons were received compared with 13,500,000 gallons in 1913.

There has been also a sharp increase in the imports of Russian gas oil and fuel oil during the past two or three years, although these items were not separately shown in the British import statistics prior to the war, and presumably the trade, if any, was small. No imports are recorded of either of these items until 1924, when a small quantity of gas oil and about 1,500,000 gallons of fuel oil were imported from Russia.

In 1925 the British purchases of Russian gas oil had increased to nearly 2,000,000 gallons, in 1926, to over 8,000,000 gallons, and in the first four months of 1927 to a little over 3,000,000 gallons. Fuel oil imports from Russia rose to nearly 38,000,000 gallons in 1925, but statistics for 1926 and 1927 to date are not yet available in detail, although the preliminary figures show no imports of fuel oil from Russia which may be explained largely by the attitude toward the coal strike and resulting fuel situation last year.

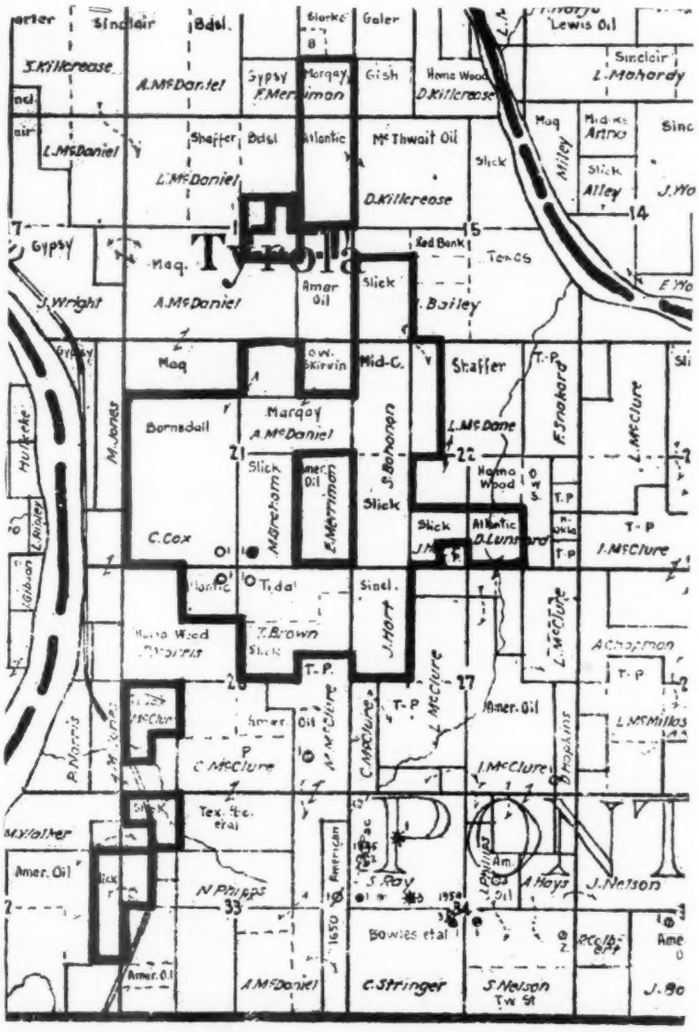
The accompanying table shows the British imports of the principal oil products purchased from Russia during the past few years, as compared with 1913.

BRITISH IMPORTS OF PRINCIPAL RUSSIAN OIL PRODUCTS
(Figures in Imperial Gallons)

	Gasoline	Kerosene	Lubricating	Gas Oil	Fuel Oil
1913	14,833,113	9,834,911	13,572,804	*	*
1921	.....	1,335,980	343,000	.....	.....
1922	900,632	6,975,693	925,296	.....	.....
1923	4,062,919	6,555,807	1,868,076	.....	.....
1924	19,214,508	10,221,752	5,060,181	489	1,617,950
1925	33,111,263	15,221,752	3,531,955	1,716,577	37,897,697
1926	55,217,069	37,494,534	†3,659,000	†8,105,000	‡
†1927 (first four months)	15,840,000	17,220,000	2,252,000	3,070,000	‡

*Not separately listed in 1913. †Preliminary figures. ‡No imports shown in preliminary figures—final figures not yet available.

OKLAHOMA COMPANIES LAUNCH ANOTHER UNIT FIELD OPERATION



The Conservation Oil Co.'s leases in the territory shown above are heavily outlined in black. They are located in Township 5-6, Pontotoc County, Oklahoma, about 8 miles north of the town of Ada. The stock in the Conservation Oil Co. is owned by seven oil companies which owned acreage around the test drilled by T. B. Slick in the southwest corner of the Graham lease in Section 21-5-6. This well started off at an estimated flow of more than 200 bbls. per hour. Pipe was set on bottom on Tuesday and the well shut in.

Seven Oklahoma oil companies, each owning acreage around T. B. Slicks' No. 1 Walker, SW cor. SE, Section 21-5-6, Pontotoc County, Oklahoma, held a meeting Friday and Saturday and organized the Conservation Oil Co. and will develop the 1,330 acres represented by their combined interests as a community proposition.

The company is made up of 1,330 shares, a share for each acre, of which T. B. Slick owns 450; Barnsdall Corp., 320; Tidal Oil Co., 120; Sinclair Oil & Gas Co., 80; Atlantic Oil Producing Co.,

(Continued on Page 140)

NORTH AND WEST TEXAS

(Continued from Page 47)

Brown County

Anderson & Curry's No. 1 Armstrong was a failure at 1,216 feet. Gibson Oil Corp.'s No. 6 Shore made 120 bbls. initial from sand at 1,245-67 feet after an 8-quart shot, total depth 1,269 feet; No. 7 Shore made 196 bbls. initial from sand at 1,252-68 feet after a 10-quart shot, total depth 1,270 feet; No. 8 made 286 bbls. initial from sand at 1,274-86 feet; No. 9 made 100 bbls. from sand at 1,286-1,303 feet after a 5-quart shot, total depth 1,307 feet. Hughes' No. 13 Shore made 800 bbls. initial from sand at 1,248-69 feet, after a 5-quart shot, total depth 1,269 feet; No. 15 made 350 bbls. from sand at 1,275-91 feet after an 8-quart shot; No. 32 found sand at 1,291-1,313 feet and made 500 bbls. after a 5-quart shot.

McKanna and others' No. 20 Shore was shot with 5 quarts and made 12 bbls. initial from sand at 1,308-31 feet, total depth 1,339 feet; No. 21 made 15 bbls. from sand at 1,330-32 feet, total depth 1,339 feet. Moorman and others' No. 1 Kellar was a duster at 1,380 feet.

Sinclair Oil & Gas Co.'s No. 5 Shore was shot with 5 quarts and made 265 bbls. from sand at 1,308-16 feet, total depth 1,320 feet. The Texas Company's No. 62 was shot with 3 quarts and made 100 bbls. initial from sand at 1,280-1,299 feet; No. 69 made 50 bbls. initial from sand at 1,286-1,305 feet after a 3-quart shot; No. 71 was also shot with 3 quarts and made 100 bbls. initial from sand at 1,280-1,301 feet; No. 72 made 100 bbls. from sand at 1,272-1,292 feet after a 5-quart shot. Tultex Oil Co.'s No. 1 Earp was dry and abandoned at 1,420 feet, having found water sand at 1,302-17 feet and dry sand at 1,338-47 feet.

Wentz Oil Corp.'s No. 21 Shore was shot with 10 quarts and made 25 bbls. from sand at 1,326-48 feet. Alford Oil Co.'s No. 1 Forbes was dry at 1,106 feet. Cranfill & Reynolds No. 2 Davis made 6 bbls. of oil and 500,000 feet of gas after 10, 20 and 40-quart shots and was plugged back from 1,270 feet to lime at 1,126 feet to 1,216 feet. Evans' No. 1 Pittman found water sand at 703-735 feet and was a failure at 802 feet. So was French's No. 1 Ferguson at 1,505 feet.

Callahan County

Humble Oil & Refining Co.'s No. 1 Alexander was a duster at 2,620 feet. Shadbolt & Creighton's No. 1 Wylie was also a failure at 600 feet. Shirley's No. 1 Terrell was dry and abandoned at 1,608 feet. So was Valley Oil Co.'s No. 3 Ramsey at 460 feet.

Coleman County

Douglas Drilling Co.'s (formerly Broderick & Calvert) No. 1 Weaver had sand at 1,802-07 feet and made 3,500,000 feet of gas. Duffield Brothers' No. 1 Russell was shot with 60 quarts and made 15 bbls. initial from sand at 1,511-26 feet. Fluger's No. 1 Phillips made 13,000,000 feet of gas after plugging back to 911-34 feet from total depth of 1,605 feet.

Cooke County

E. J. Ruwaldt's No. 1 Koelzer was completed at 1,654-78 feet for 217 bbls. the first 24 hours and 184 bbls. the second 24 hours.

Eastland County

Lewis and others' No. 2 Hargus made 30 bbls. of oil from sand at 1,389-1,433 feet after an 80-quart shot, total depth 1,440 feet. Teatsworth and others' No. 2 Citizens Water Works was shot with 60 quarts and made 32 bbls. initial from sand at 1,404-23 feet, total depth 1,435 feet. Chestnut & Smith Corp.'s No. 1 Eppler found pay at 3,060-3,133 feet and made 15 bbls. initial from sand at 3,073-3,133 feet after a 180-quart shot; No. 1 Massman pumped 15 bbls. after a 200-quart shot at 2,972-3,040 feet. Root and others' No. 1 Thorp was estimated at 15,000,000 feet of gas at 3,534-40 feet.

Grayson County

Sowell Brothers' No. 1 Cannon was a failure at 2,800 feet.

Jack County

O. K. Giles' No. 1 Brentmoore was estimated at 15 bbls. initial from sand at 318-26 feet. Fred Stang's No. 1 Brentmoore made 20 bbls. initial from sand at 514-34 feet. Wynne & Millett's No. 1 Brentmoore made 10 bbls. initial from sand at 518-23 feet.

Montague County

Comet Petroleum Co.'s No. 1 Rolling was a duster at 1,963 feet. Continental Oil Co.'s No. 1 Henton found 8,500,000 feet of gas in sand at 526-30 feet; total depth 2,290 feet.

Palo Pinto County

Owens and others' No. 1 Mosley heirs had sand at 2,308-12 feet and made 1,000,000 feet of gas, total depth 2,320 feet. Shaw's No. 1 Jones made 1,500,000 feet of gas from sand at 2,285-87 feet.

Shackelford County

Albany Oil Co.'s No. 5 Reynolds made 40 bbls. from sand at 1,247-70 feet. French's No. 1 Reynolds was a failure at 1,502 feet. Marland Oil Co.'s No. 1 Holstein was dry and abandoned at 2,023 feet. So was Roeser & Pendleton's No. 1 Scott at 2,130 feet.

Stephens County

Denny & Andrews' No. 1 Fambrough made 5,500,000 feet from sand at 2,290-92 feet. The Texas Company's No. 44-A Parks made 40 bbls. after a 60-quart shot at 3,140-64, a 10-quart shot at 3,190-3,203 feet, a 40-quart shot at 3,699-3,727 feet. It was plugged back to 3,727 feet from total depth of 3,900 feet.

Wichita County

J. L. Jackson's No. 1 Mitschke was a failure at 1,221 feet. Consolidated Oil Co. and Apple & Brandeberry's No. 3 Ancell was also a duster; No. 4 was dry at 1,748 feet. T. F. Hunter's No. 1 Waggoner-B was a failure at 2,006½ feet. Panhandle Refining Co.'s No. 2 Daume pumped 12 bbls. initial from sand at 682-90 feet.

Wilbarger County

F. A. Beatty's No. 2 Waggoner, which was completed for 40 bbls. in August, 1926, was plugging to abandon at 1,947 feet with no production. Humble Oil & Refining Co.'s No. 12 Waggoner-H pumped 54 bbls. oil and 4 bbls. water from sand at 2,574-2,604 feet; No. 2 Waggoner-R was a duster at 600 feet. Phillips Petroleum Co.'s No. 11 Waggoner-F found sands at 2,296-98 and 2,398-2,409 feet and pumped 101 bbls., total depth 2,410 feet; No. 3 Waggoner-OO was a failure at 2,658 feet.

Young County

Madden & Hunt's No. 2 Perkins was dry at 974 feet. Moran and others' No. 6 Stewart was junked and abandoned at 502 feet. Panhandle Refining Co.'s No. 1 Brazelton was a duster at 854 feet. So was Wichita Production Co.'s No. 2 Cheeves at 1,102 feet.

WEST TEXAS

Daily Average Production for Week Ending June 25, 1927

Crane County

Company, Lease—	Wells	Production— June 18	June 25
Church et al:			
University	2	615	400
Church & Weekly:			
University	1	1,000	1,058
Church & Fields:			
Duoll-University	1	240	214
Cromwell & Pickrell:			
University	4	1,160	2,158
Eastland Oil Co. & Collett:			
University	4	6,650	7,520
Gulf Production Co.:			
J. T. McElroy	13	13,771	13,530
Crier-McElroy	6		
State-Lasseter	8		
Humble Oil & Ref. Co.:			
University	8	6,540	6,417
Independent O. & G. Co.:			
Hughes	1	8	10
University-A	2	1,213	1,170
Landreth Prod. Co.:			
Cowden-Anderson	4	1,000	3,393
McMan Oil & Gas Co.:			
Hughes	3	90	75
Magnolia Pet. Co.:			
University-Hardwick	4	850	623
University-O'Keefe	7	310	194
State-Lasseter	2	66	87
Magnolia Pet. Co. et al:			
University	4	82	70
Marland Oil Co.:			
Cowden-A	3	60	70
Cowden-B	1	100	105
Durham	1	10	5
Hughes-C	3	55	55
Hughes-D	6	754	901
Hughes-Gibbs	2	30	45
Prairie Oil & Gas Co.:			
University	6	362	378
State-Lasseter	1	221	299
Simms & Atlantic:			
University-A	7	4,370	4,259
University-B	1	56	65
University-C	2	2,200	2,950
University-D	1	860	1,124
Stidham & Thrasher:			
University	1	15	10
The Texas Company:			
King	9	391	284
Union Land-F	1	5	5
University	1	376	376
Tidal Oil Co.:			
University-B	2	70	104
University-C	1	28	35
University-E	1	100	98
University-F	4	4,831	5,921
University-H	2	110	89
Total	129	48,509	54,097

Crockett County

Cromwell et al:			
Powell	5	145	150
Gulf Prod. Co.:			
Powell-A	4	0	0
Powell-D	1	73	139
J. K. Hughes:			
Powell-A	3	201	205
Powell-B	1	50	50
Humble O. & R. & Marland:			
Powell	9	400	450
Sorg	1	10	10
Powell-B	1	55	50
Republic Prod. Co.:			
Powell	2	235	225
Roxana Pet. Corp.:			
Powell	1	20	18
P. H. Williams:			
Powell	1	0	400
Total	29	1,189	1,697

Ector County

J. S. Cosden:			
Connell-A	1	15	15

Garza County

Emerald Oil Co.:			
J. M. Boren	1	4	4

Glasscock County

Texon-Marland:			
Settles	1	30	40

Howard County

Bristow & Merrick:			
A. J. Hooks	3	140	124
Comet Pet. Co.:			
H. R. Clay	1	10	10
Dixie Oil Co.:			
H. R. Clay	1	10	10
F. H. E. Oil Co.:			
John Roberts	1	22	18
Godley Oil Co.:			
A. J. Hooks	1	0	30
Gulf Prod. Co.:			
Chalk	1	24	18
Humble Oil & Ref. Co.:			
Douthit	2	45	40
Lockhart & Co.:			
Chalk & Chalf-A	6	112	108
Lockhart & Carey:			
Scott	1	6	8
Magnolia Pet. Co.:			
O'Daniel	1	11	11
G. O. Chalk	5	203	221
Hyman Chalk	2	25	25
Mary Chalk	4	176	155
Otis Chalk-A	7	189	193
Sarah Hyman	2	46	42
Sloan Chalk	1	41	51
Kelly Chalk	2	132	142
Marland Oil Co.:			
Chalk	10	360	328
Chalk-A	7	315	297
H. R. Clay-A	5	318	304
H. R. Clay	5	151	143
Otis Chalk-B	1	65	60
Otis Chalk-C	1	40	46
Otis Chalk-D	1	51	51
Otis Chalk-E	1	137	122
H. R. Clay-B	1	32	28
J. B. Harding	1	0	43
Midwest Exploration Co.:			
H. R. Clay	1	15	15
Pure Oil Co.:			
Otis Chalk	3	284	305
Reeves & Apperman:			
H. R. Clay	2	178	153
Tidal Oil Co.:			
Otis Chalk	2	52	45
Total	83	3,190	3,146

Jones County

Atlantic Oil Prod. Co.:			
Howell	1	17	20
Marland Oil Co.:			
Mason	3	498	512
Midwest Exploration Co.:			
Thornton	4	300	341
Phillips Pet. Co.:			
Tessie-Walling	4	435	456
Winters	2	310	300
R. M. Beasley	1	88	79
J. C. Mason	1	190	203
Stebbing Oil Co.:			
Higgs	1	19	19
Total	17	1,847	1,930

Loving County

Lockhart & Co.:			
Allen	1	25	25

Mitchell County

Atlantic Oil Prod.:			
Womack	8	80	110
California Co.:			
All leases	85	2,513	2,656
F. J. Carey et al:			
E. Morrison	1	11	13
Eastland Oil Co.:			
All leases	9	305	318
Magnolia Pet. Co.:			
All leases	20	626	657
Tidal Oil Co.:			
All leases	2	19	22
Total	126	3,554	3,776

Pecos County

Mid-Kansas Oil & Gas and Transcontinental:			
Smith-Taylor	1	700	715
Yates-A	4	2,781	2,779
Yates-B	1	842	679
Yates-C	1	837	747
Texon O. & L. Co.:			
Yates	1	0	0
Total	8	5,160	4,920

Reagan County

Big Lake Oil Co.:			
University	110	17,974	18,673
Texon Oil & Land Co.:			
University	78	7,158	5,839
Total	188	25,132	24,512

Scurry County

Northwest Oil Co.:			
All leases	4	22	20

Upton County

Amerada Pet. Corp.:			
Hughes	5	372	290
Atlantic Oil Prod. Co.:			
Sherk	1	15	40
Bryant & Atlantic:			
Baker	2	45	45
Dixie Oil Co.:			
Burleson	17	3,251	3,522
Hughes	10	161	224
Gulf Prod. Co.:			
Baker	1	3,067	3,170
Baker-B	2		
Estep	2		
Hughes	4		
Lane-C	1		
J. T. McElroy-B	1		
Sherk	1		
J. G. Lane	1		
Humble Oil & Ref. Co.:			
Burleson	4	85	90
Ricker	3	165	180
Independent Oil & Gas Co.:			
Burleson	5	67	69
Taylor	10	453	434
Wooley	10	723	767
McMan Oil & Gas Co.:			
Baker	1	47	47
Marland Oil Co.:			
Baker-A	1	50	50
Benton land	1	0	0
Burleson	31	805	846
Burleson-A	3	7	7
Burleson-B	1	4	4
Estep	8	695	713
Hughes-B	1	6	6
Keith	3	210	180
Sanger	20	432	434
Shirley	4	341	326
Powell	4	150	206
Shirley-A	1	15	16
Gibbs	2	162	206
Prairie Oil & Gas Co.:			
Lane	4	490	724
Allie Lane	1	607	661
Republic Prod. Co.:			
Baker	5	85	77
Roxana Pet. Corp.:			
Bowen	17	2,875	3,032
Estep	3	84	101
Hughes	10	396	441
Simms Oil Co.:			
Shirley	3	110	95
Snowden & McSweeney:			
Hughes	1	225	217
Sun Oil Co.:			
Burleson & Baker	10	325	289
The Texas Company:			
Burleson	4	48	41
King	12	314	419
Texon Oil & Land Co.:			
Sherk	1	20	20
T. P. Coal & Oil Co.:			
Sherk	4	181	139
Lane-A	6	2,685	2,761
Lane-B	1	0	0
Wentz Oil Corp.:			
Sherk	3	155	130
Total	232	19,832	20,727

Winkler County

Independent O. & G. Co.:			
Hendricks	1	60	30
Southern Crude Oil Co.:			
Hendricks-A	1	287	281
Hendricks	2	590	576
Gulf Prod. Co.:			
Hendricks	1	504	351
Total	5	1,441	1,238

OKLAHOMA COMPANIES LAUNCH UNIT OPERATION

(Continued from Page 139)

160; Margay Oil Co., 120; and Mid-Continent Petroleum Corp., 80.

Officers chosen were: President, E. B. Reeser, Barnsdall Corp.; vice president, T. B. Slick; treasurer, E. O. Bartlett, Barnsdall Corp.; secretary, Donald W. Bell, Tidal Oil Co. Each of the interests is represented on the directorate. The company will be incorporated.

The well that was responsible for the formation of this unit operation was financed by the companies who have pooled their interests and was located on the Slick lease. It came in last Friday morning from Hunton lime topped at 2,555 feet drilled to 2,693 feet. When the oil was uncovered it came out of the hole in a solid 10-inch column and rose to a height of 50 feet in the derrick. No provision had been made to shut the well in and there was no tankage and much of the oil ran down a near-by creek. Its flow was estimated at more than 200 bbls. per hour. Later pits and dams were built and a control head provided. The well stopped flowing and it was thought the hole had caved in. The 10-inch pipe had been set at 2,070 feet and there was over 600 feet of open hole.

On Sunday, the well was opened and again it shot a solid column of fluid about half way up the derrick, but it was found it contained about 15 per cent water and 15 per cent sediment. It was permitted to flow 3½ hours and was then shut in.

On Tuesday it was reported the 8-inch pipe had been set on bottom and the well shut in.

KERN COUNTY LEASES

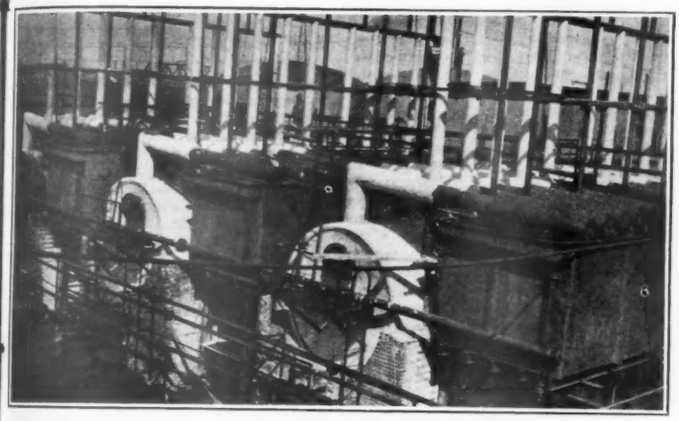
Two oil and gas leases for land totaling 900 acres in Kern County, California, have been forwarded by the Department of the Interior to Dwight G. Vedder of Los Angeles. One is for 240 acres at the royalty rate of 5 per cent, and one for 660.52 acres at the regular royalty sliding scale of 12½ to 33⅓ per cent. The discovery well was drilled to a depth of 2,044 feet with a production of 219 bbls. of oil during a test of 18 hours.

JAPANESE INDUSTRY IS ADOPTING NEW METHODS

(Continued from Page 136)

It is now installing in its lubricating department three Schulz vacuum process units which have been developed by the Red River Refining Co. of Chicago. Another of the leading oil companies, the Ogura Oil Co., also has installed the Dubbs cracking process and the Schulz vacuum process at its refinery.

There are now, it is estimated, over 40,000 automobiles in Japan, and as the percentage of trucks is larger than in this country the consumption per car is correspondingly high. The products in greatest demand are gasoline, motor oils, Diesel engine oils and transformer oils. The kerosene output of the refineries is limited in amount. The Diesel engine oils are needed for the use of the fishing fleet of from 3,000 to 5,000 vassels, most of which are powered by Diesel engines. Japan has in its many mountain streams and waterfalls a vast amount of potential energy and has rapidly taken advantage of this fact in the installing of hydroelectric plants. Transformer oils are in demand for these industries.



View of Schulz vacuum process stills for manufacture of lubricants at Tokyo, Japan, refinery of the Ogura Oil Co.

The Nippon Oil Co., Ltd., is the largest in Japan. It produces, refines and markets. The second is the Ogura Oil Co., a producing and refining organization; the Kabafuto Oil Co., a producing organization; the Asaki Oil Co., which refines as well as producing some oil, and the Schiss Kyodo Co., which imports crude which it has refined by some of the small refineries and then markets the product. The method of distribution for the most part is in cases. The pump system, however, is spreading rapidly and is meeting with great favor. The usual price of gasoline to the consumer is around 30 cents a gallon.

This review of the Japanese oil business is of the native industry only. The leading oil companies, such as the Standard, Shell and other large companies, have depots in various parts of Japan and import oil from America, Batavia and other convenient shipping points.

REVIEW OF ROYAL DUTCH OPERATIONS

(Continued from Page 83)

the sorry plight of all factories, pipe lines, etc., in Russia.

The result of this is that the quality of the products supplied by the Soviets has become greatly inferior. One of the purchasers of Russian kerosene has, in consequence, been obliged to erect refineries at Batoum in order to make the kerosene supplied to him marketable.

Soviet Condemned

As regards the confiscation of the various oil fields which belong to our group and to other foreign parties, the position has remained unchanged. So far the Soviet Government has shown no inclination to grant compensation to anybody for the illegal seizure and appropriation of their possessions. On the contrary, attempts have been made, by holding out promises of possible profits, to induce the public to invest money again in confiscated oil fields. For instance, recently the chairman of the Russian Naphtha Syndicate, i.e., the state organization controling the oil industry in Russia, invited credulous people to work some oil fields, among which Dossor and Makat, which were taken i.a. from the Ural Caspian Petroleum Co. belonging to our group.

At the same time it was again confirmed recently at Geneva, that the Soviet Government would never return the fields of Grozny and Baku to private industry. Now as a matter of fact the Soviet Government knows just as well as we do that (1) the Emba fields (Dossor and Makat) can only be rendered productive at very great expense, and that (2) the value of those fields lies entirely in their favorable situation for the sale of the products in Russia itself. Considering further (3) that the Soviet Government holds the monopoly of trade in Russia, it is apparent that nobody with common sense could consider such a proposal.

In the meantime the Russian Government is beginning to feel more and more the logical consequences of its actions. For that government it is of course of the greatest importance to be able to dispose of the necessary credits and for these new credits Russia now has to pay excessive rates of interest. It may even be wondered at that it is still possible for the Soviet Government to get loans at all on no matter what conditions, money which for the greater part is used, if not direct then indirect, for stirring up strife in the countries from which those loans have been obtained.

Rumania with a production of 3,241,000 tons shows an advance of 39 per cent. This increase is mainly a result of the granting of concessions on a number of state lands to a few privileged companies—lands in which the presence of oil was in many cases proved by non-naturalized companies.

Further, in consequence of the fluctuations in the rate of exchange, the burden of taxes and disorganization of transport, the general economic position in Rumania is such that not a single Rumanian petroleum company, not even those with the largest production, can make a profit in proportion to the labor expended and the risks taken.

Future Supply

The large increase in the consumption of petroleum products already referred to need not at present give rise to any fear that the world's store of petroleum will soon be exhausted.

Through the possibility of being able to reach deeper oil layers by the application of improved technical and geological means the presence of many more oil reserves has already been proved. Furthermore, new inventions have enabled the industry to make from the oil extracted always those products that are most in demand.

Moreover, the more and more economical and sicentific use of oil products (mention need only be made of the Diesel-engine-driven ship which, compared with the steamship burning liquid fuel, gives a saving of two-thirds in fuel consumption) must essentially lead to the result that, when once the production of oil no longer shows an increase, the consumers who know how to make the best use of the oil will continue to buy it, while others who make less efficient use of their oil will change over to other fuel.

Our opinion is, therefore, that an actual shortage of oil products is not to be expected within a measurable space of time and that consumption and production will move together in such a way that there can never be any question of an actual dearth. For the present there can in no case be any question of a shortage of oil products. On the contrary there is a large overproduction.

For instance, at the close of 1926 and in the beginning of 1927, owing to some exceptionally rich fields having been brought into exploitation in the United States—where the production at the present moment is about 2.5 million barrels (about 370,000 tons) per day as compared with about 1.9 million barrels (about 270,000 tons) a year ago—production has risen far in excess of consumption.

The fact that the American laws result in producers being obliged to drill offset wells against producing wells on adjoining fields, together with the fact that a number of oil field leases are in the hands of small producers who, when they know oil is present, will not or cannot wait with the extraction of the oil until the moment comes when the market will require it, render it very difficult to avoid wasteful production of oil.

Gasoline Situation

The stocks of benzine, partly through what remained from the previous year, show an enormous increase, with the result that at the moment there is a surplus of benzine. The result of this has been that in the United States the petroleum industry has had to stop a large number of cracking installations, for benzine obtained by distilling off the benzine fractions from the crude oil is so much cheaper than benzine produced by the cracking process that in times of overproduction cracked benzine must leave the field to the natural benzine.

Our shareholders will no doubt often have read reports in the press regarding processes for the manufacture of benzine from coal and they may have wondered whether this might not constitute a serious menace for the petroleum industry.

As to the possibility of manufacturing petrol from coal there is no longer any doubt; technically this is quite possible. We have continually kept in close touch with this technically scientific invention and are financially interested in it, because under some circumstances it may be valuable.

Whether the benzine obtained from coal may prove to be able to compete with natural benzine is a question of price. The ever-increasing world production of crude oil and the additions of new names to the list of petroleum producing territories guarantee that even in the far distant future it will still be possible to produce cheap oil. The manufacture of natural benzine is only a question of comparatively simple distillation. These facts tend to keep the price low.

On the other hand the price of benzine obtained from coal will have to embody both the cost of producing the coal and the considerably higher cost incurred by the complicated processes for the conversion of coal into benzine.

Therefore, generally speaking, it cannot be said whether this benzine will be able to compete against natural petrol. This will depend entirely on the market price prevailing at the place where benzine is obtained from coal.

Synthetic Fuel

If the cost price of this synthetic benzine should indeed prove to be so low as some people seem to expect, what, then, must be the logical consequences for the industry? Simply this, that those countries where the cost price of the crude oil is at present the highest will experience the effects first. In other words, those countries where taxes, royalties and transport charges, in short cost of production, are in general high will no longer be able to compete successfully. Therefore countries such as Poland (Galicia) and Rumania and fields in Russia such as Emba and Tjelekan, will feel competition first and most keenly, and for these countries there will be only one way out, viz., so to alleviate the conditions under which oil is produced (by reducing taxes, providing better and cheaper means of transport, reducing royalties, etc.) that home producers can maintain competition.

In order that this may be taken into account in time we deem it here the right place to draw attention now already to the consequences of a possible new competitor on the oil market in the form of synthetic products.

The natural benzine distilled from crude oil must of itself continue to hold the advantage over synthetic benzine. Therefore in those countries where no excessive taxes are levied and other uneconomical burdens do not bear down the oil industry it will always be able to complete with success against the synthetic product.

Whether benzine obtained from heavy oils by cracking will in the long run be able to compete against synthetic benzine (obtained from solid carbon compounds by cracking) is of course quite another question.

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Taking all this into consideration we entertain no fears and we are convinced that our sound position can in no way be shaken through this technically highly interesting invention.

Royal Dutch Production

The figures for our group's production show an appreciable increase:

	Metric Tons	
	1925	1926
Dutch East Indies	2,999,061	2,804,911
Sarawak	612,923	711,637
Egypt	178,570	171,918
Rumania	392,944	632,202
Mexico:		
Corona	1,375,296	851,735
Aguila	1,036,992	1,283,761
Venezuela	1,643,588	3,122,379
Trinidad	51,350	59,638
United States:		
Roxana	2,327,246	2,317,606
Shell Co. of California	3,309,153	3,475,661
Argentine	269	5,203
Total	13,927,392	15,536,651

SIR JOHN CADMAN ON PETROLEUM'S TOMORROW

(Continued from Page 83)

because of the romantic origin of its oil enterprise and of the exceptional character of its deposits.

British Oil Resources

In comparison, the British Empire has but a modest tale to tell so far as actual production is concerned. The catalog of mineral resources within the Empire makes but scant reference to petroleum. India, Trinidad and Sarawak are the only countries that produce it in considerable quantities, and the aggregate of their entire output is relatively small; in fact, it does not exceed 2 per cent of the world output. At the other end of the scale is the United States, producing from its own oil fields in 1926 something like 70 per cent of that total.

Exploration throughout the Empire will press forward unceasingly, but in the light of the knowledge we possess today, we are not entitled to look for results comparable to those of the United States.

Of the great and long-constituted petroleum groups, one—the Standard Oil—is wholly American in ancestry, and the other—the Royal Dutch-Shell—is partly British, but predominantly Dutch in origin and ownership. Both these groups, controlling production in many parts of the world, have a long record of great commercial enterprise, high technical skill, and fine organizing capacity.

Compliments Standard

The great world work of the Shell group—in peace and in war—is, I think,

well comprehended by observers in this country. And here I would refer with deep regret to that great citizen, that great figure in oil, Lord Bearsted, just passed away.

Around the activities and organization of the Standard group, however, many fierce battles have raged for more than half a century. It had its beginnings in a period when petroleum production was in a chaotic condition and petroleum technology was practically nonexistent. The fiercest individualism prevailed throughout the industry, and waste and overproduction were rampant. The shrewdest American critics of the Standard — and what great organization lacks its critics?—pay tribute to the fact that it was the first to stand for organization in an otherwise unorganized industry; that it took long views on the technical side, and that it stood for ordered and regulated production when very few others took thought for the morrow. The great position it holds today is, therefore, obviously not the result of a series of lucky accidents, but is the achievement of several generations of shrewd, far-sighted and highly efficient men.

Distributing Facilities

In fact, the spirit of our first phase is indeed best illustrated by the remarkable development of "Standard Oil." Originally, it was not chiefly a producing organization—nor is it to this day. The chief instrument of its policy is, and has always been, the development of distribution facilities throughout the world; beginning, for the most part. with the collection of oil won by others; controlling, by means of a network of pipe lines, its transportation to refineries and to the seaboard for export; and owning production only as a precautionary measure and collateral to its main policy. In the United States hundreds of producers flourish, and many more go to the wall every year, and it is perhaps as well for the countless thousands of consumers of "Standard" products including "Pratts", that "Standard Oil" is involved only to a limited extent in these perilous hazards of capital adventure in production.

Looking at the map of the world today in terms of petroleum, we must admit, however reluctantly, that it is predominantly American, an admission that forces us to congratulate ourselves upon the huge coal reserves of these islands—their accessibility, their quality, and their cheapness—a view from which I do not dissent provided the perspective which I have tried to compose for it is retained.

A possible inference, however, from that admission is that for attainment in the realm of oil, relatively scant credit falls to British terrain or British personnel. But closer examination, I venture to suggest, will disturb and possibly shatter that view. Let us take a few instances. Several years before the boring of the first Pennsylvania well, James Young, in our own Scotland, conducted important research upon the distillation of oil from shale, and so formulated a grammar of refining practice, which even now exercises a disciplinary influence on our rich vocabulary.

British Contributions

Further, it is interesting to find that even in America much of the pioneer work of production and exploration has been financed by British capital and carried on by British settlers and their descendants, so that at once the facts which I have emphasized begin to be seen in a new light.

Turning to Mexico, there again you find the "spade work" done almost entirely by men either of British nationality or of British birth. Also, work in every European and Asiatic field has been largely British—predominantly so in certain well-known instances. It is, therefore, only just to say that the natural deficiencies of Britain in respect of its oil resources, have been largely counterbalanced by the courage, the vigor, and the enterprise of her sons as applied to the various stages of oil activity.

With that thought I must pass on to the second phase, which may be described as the phase of direct participation in oil production on the part of Great Britain. I need not embroider the tale, often told, of Lord Fisher's perfectly volcanic activity, and of his enthusiasm for oil—perhaps the most epoch-marking of his preoccupations. He and his admiralty colleagues exercised an encouraging influence on those pioneers who were later to become the founders of the Anglo-Persian Oil Co.; and in a moment I shall make reference to the ultimate consummation of Lord Fisher's great idea. Less perhaps has been said of the amazing contribution to the evolution of the present oil era made by another Imperial figure—I mean Winston Churchill—surely one of the most remarkable statesmen it has been the good fortune of the British people to appoint First Lord of the Admiralty. As you will recall, in "The World Crisis" he refers to the strain imposed on those who in 1912 were forced to take a great decision. These are his words:

Oil Decision Vital in War

"A decision like this involved our national safety as much as a battle at sea. It was as anxious and as harassing as any hazard in war. It was war in a certain sense, ranging under a surface of unbroken peace. Compare it with the decision to attempt to force the Dardanelles with the old surplus vessels of a fleet which had already proved its supremacy. The oil decision was vital; the Dardanelles decision was subsidiary. The first touched our existence; the second our superfluities."

In that sober mood was authorized the great departure by which it came about that at the outbreak of war, virtually all the submarines, destroyers, light cruisers and even the battle line itself wholly or in part burned oil, a substance yielding remarkable flexibility in manoeuver, economy in construction and consumption, and above all, hitherto unheard-of speed—and yet, a substance foreign to the natural resources of these islands and all but unknown within the far-flung bounds of Empire.

I am persuaded that if one single act more than another can be regarded as compelling the inauguration of the oil era as we discern it today, and more particularly as we contemplate it for the future, it was that act of fine courage by which Mr. Churchill did not hesitate to turn aside for a time from Britain's birthright, lest Britain herself be crippled and altogether brought down.

That decision taken, it followed inevitably that the strictest search must be made for supplies, and for some assurance of continuity in supply; and on that I have some observations to offer.

Milk of Industry

From what I have said, you will have gathered that it is permissible to regard oil as virtually of universal application to our industrial and social life. If an analogy be sought, we might perhaps choose to call oil the "milk" of industry. I am told that milk is quite a perfect human food and, like oil, is a highly organized, well-balanced storage of heat and power. Unfortunately, both are to some degree subject to the disturbing action of extraneous forces, and under certain conditions may be liable to adulterative action. In fact, according to some critics, oil is frequently the object, as well as the subject, of action of that kind. As a point of punctilio in definition, it may be as well to offer a friendly word of warning lest the terms "impurity" and "politics" come loosely to be regarded as interchangeable.

In this connection, I think it is possible to be needlessly afraid of the word "politics," whose definition is, after all, the study of the science of government, and therefore, of these forces that make for the welfare of human society. Such a benefactor of mankind as oil cannot therefore escape from some political significance, and it would be foolish to deny that oil is a subject of the greatest public interest throughout the world.

It is not my purpose to emphasize those transactions between the United States Government and the "oil interests" which from time to time have agitated the American people, and, incidentally, have afforded evidence of the vitality of the oil industry in America. In this country, we may claim to enjoy a constitution of such firmness and flexibility as to render possible much adaptation and much inter-relation without outraging either the conventions of commerce or the traditions of government. I sincerely believe that the transactions, of which in a moment I shall speak, were approached from both sides with due regard to all the canons of propriety.

British Interest in Persia

The amazing story of William Knox D'Arcy and of the discovery of the Persian Field is doubtless known to you. It is sufficient to say that thanks to D'Arcy's efforts, fortified by those of the Burmah Oil Co. as well as of the late Lord Strathcona, and encouraged by His Majesty's Admiralty, it became possible to conserve and to develop what now stands revealed as one of the very richest single oil fields of the world.

The government's appearance as an ordinary shareholder in the Anglo-Persian Oil Co.—a departure for which Mr. Churchill was the principal advocate—evoked considerable interest, and was an appetizing morsel for certain journalists. These journalists said:

First. That state participation in ownership exercised a malign influence upon allied strategy and, in particular, went far to provoke, to complicate and to impede the prosecution of the Allied campaign in Mesopotamia.

Second. That, having taken the decision to transform the British Navy to oil burning, the logical policy was to buy oil from all and sundry, to multiply storages within the British Isles, and to avoid at all costs the political implications of government participation in the ownership of production—a view, which, by the way, had sometimes been held even outside journalistic circles.

Third. That a British lien on production in Persia was in itself useless, since the war everything depended upon sea transportation to this country, which could have been effected equally well and was indeed so effected, in the case of supplies purchased from non-British sources.

Fourth. That before the war, during the war and, more particularly, after the war, the British government's ownership of its Anglo-Persian shares introduced a taint and an element of bitterness into international relations.

This place and this occasion may be thought opportune for the expression of the views of one who perhaps has enjoyed special opportunities for formulating an opinion. First of all, I need hardly remind you that Persia stands "on the road to India" and that the Persian Gulf has long been an object of the utmost interest on the part of those responsible for the defense of the British Empire.

Mesopotamia Campaign

In the inception of the Mesopotamia campaign it is common knowledge that one of the military objectives — but of course a minor one — was, so far as practicable, the adequate protection of the Anglo-Persian Oil Co.'s refinery at Abadan and of the pipe line from the oil fields. Surely it goes without saying that the preservation of any source of war supplies was necessarily a preoccupation of the Allies—yielding priority only to considerations which, on balance, might appear even more vital. What was, in fact, the influence of the government's interest as an investor? So little did its share in the ownership of the Anglo-Persian Field deflect the course of military action from strictly orthodox lines, even when the entire oil-producing organization in Persia was menaced, that at one time Mr. Churchill himself chose to employ these words: "There is little likelihood of any troops being available for action in this area. We shall have to buy our oil from elsewhere." So much for the misinterpretation that a perverted imagination can place upon the dispositions made by the Allies for the maintenance of their war supplies.

It is not possible to go further, and to suggest that the existence of Persia as a friendly power, drawing large revenues by way of royalty, securing employment for tens of thousands of her subjects, and assuring the promotion of a great Persian oil industry—all these being directly the fruits of British collaboration in its inception—must have been a source of strength, as it is today a source of strength, to Britain no less than to Persia? And, be it noted that but for the timely participation of the British government, it is probable, almost certain, either that the Anglo-Persian Oil Co. would have been compelled to pursue its development in a restricted, a hasty, and therefore a wasteful manner; or, alternately, there must have looked the peril of its control passing to hands definitely alien from Britain.

True, there would have remained the Burmah Oil Co.—a pillar of real strength. I do not for one moment presume to speculate upon the chances in such an eventuality of the Burmah Oil Co.'s deciding upon any change of structure or restriction of development; and I should be the last to postulate any such procedure. Again, we may legitimately indulge in a measure of ex post facto reasoning, by concluding that the stress of war itself might well have resulted in securing ample financial supplies from official sources to any vital war industry, found languishing but still retaining the power of revival and expansion. Let us hope that at worst such would have been the condition of the Persian oil enterprise.

Saved Persian Field

Such suggestions, however, definitely belong to the realm of speculation, and cannot pretend to provide for the countless considerations of commercial expediency, and in the latter case, of national urgency that would have attended the decision of any such issues. For reasons which I trust I have made plain, the one indispensable thing was certainty, and second only to that the opportunity to take long views. These could have been conferred in more than one way, but you will consider whether, in fact, the Government's subscription, coming when it did and how it did, was not par excellence the means of conferring upon the constitution of the company a solidity and a cohesion that have enabled development to proceed on logical lines, forswearing the "beggar my neighbor" policy which I have already condemned as the bugbear of the development of any oil field and in Persia might well have reproduced the deplorable results that to a large extent have shortened the life and diminished the prosperity of certain of the other great oil fields of the world.

As I said earlier, undue haste and uninformed zeal in action are inseparable from highly competitive production and a feverish thirst for quick dividends. Having regard to the geological formation of the Persian oil fields, such methods, if permitted there, might well have resulted in the ruin of the whole field. Therefore, it is open to you to conclude that the steadying effects of the British government's participation may have contributed in the most direct way to the establishment of a lasting and powerful Persian industry.

Further, I might remind you of the significance of the British call on Persian oil in relation to empire defense and to such defensive bases, for example, as Singapore. But that is a point which I need not labor.

State's Interest Upheld

As to postwar complications, I can, of course, speak only of the period prior to my identification with the Anglo-Persian Oil Co.; but, subject to your indulgence and with no more authority than attaches to a purely personal opinion, I trust I may be permitted to say quite simply that so far as I can judge from my official experience, the direct interest of the state in that company simplified, where it did not actually facilitate, the course of international negotiations. We laid our cards on the table. The fact of the state's interest in the Anglo-Persian Oil Co. had been broadcast, and its abstention from commercial direction was openly avowed, thus averting many of the dangers that would have attended negotiations if, like those of certain other powers, its oil aims had afforded matter for uncertainty and conjecture.

May I sum up in this way? When all is said, there would appear to be ample

material to justify a conclusion that in future public opinion will applaud the candor, the foresight and the true statesmanship which, finding British supplies of oil dangerously exiguous, did not hesitate to take a hand in the development of this great center of supply.

Arising out of what I have just said, it may be of interest to inquire whether there are not circumstances in which our interests can be advanced as actively in foreign countries as within the limits of our own dominions.

Benefit to Persia

Who, for instance, will attempt to assess the value of proving to Persia the benevolent effect of British activity? In that country British energy and British capital have been successfully mobilized to stimulate and to crown the efforts of the inhabitants themselves. The engineers of the Anglo-Persian Co. first arrived in Southwest Persia to find a rocky wilderness equipped with none of the apparatus of modern civilization, and so inaccessible that normal methods of transportation were ruled out. Today, that region has become a flourishing area of industrial activity, with comfortable bungalows and other dwellings, many miles of first-class roads, electricity for lighting, gas for cooking and heating, and abundant supplies of pure water. About 25,000 people are employed in the oil industry there, the very great bulk of whom, but for 1,000 Europeans, are of Persian nationality; and if those dependent on wage earners be included, a total of some 150,000 Persians is involved. Obviously, all this represents a great stabilizing influence in the country. Further, a well-sustained effort is being made to give technical training to Persian youths and, also, to assist in providing educational facilities, not only in the areas of the company's operations, but also at the capital of Persia and elsewhere in the country.

Anglo-Persian's Position

A concluding word must concern this country where, after all, the Anglo-Persian Oil Co. occupies a place, although not a dominant place, in the counsels of those who control oil distribution here. I think it is common knowledge that, prior to the advent of that company, the British market was indebted for its supplies almost solely to the representatives of the "Shell" and of the "Standard" or "Pratts" respectively—the two groups to whose beneficent work throughout the world I have already referred, for I have seen too much of the enterprise, the courage, and the skill of both groups to think of belittling the magnitude and value of their achievements. But in relation to operations in this country, I take leave to remind you that these two groups have this in common, namely, that each is only partly British. On the other hand, the central feature of the Anglo-Persian Oil Co., for weal or for woe, is of course, its altogether British character in ownership, in control and in the spirit of its every operation. It need not presume to dominate oil counsels in this country, but perhaps now and then it is able, as a third party, to affect the "balance of power" and to introduce a specially British point of view—steady, stolid, if you like, but at any rate reflecting characteristics that are enjoyed in common by the entire personnel of the Anglo-Persian Oil Co.'s executive, and the bulk of the people of this country. I leave you to conjecture how far that steadying influence may possibly operate having, I hope, established my point that if the Anglo-Persian's influence reflects even the faults of the British people, that is not altogether a matter for regret.

Not Instrument of Government

But I make one proviso. Let no one imagine for one moment that it is in any way an instrument of government, to be employed with Machiavellian tortuousness in attaining obscure political objectives. It is very definitely nothing of the sort. It is a purely commercial industry conducted for strictly commercial ends on severely commercial lines.

The fact that the company's shareholders include a widely dispersed body of British investors, all having ample opportunity for informed comparison with the results of rival enterprises, in any event would surely provide a sufficient corrective; but I need do no more than remind you of the deliberate pronouncement of His Majesty's government as to its aloofness from any share in the commercial control of the enterprise.

It comes natural to any British concern, proud of its record and conscious of its responsibilities, to rejoice if and when there appears a prospect of developing within the empire some hitherto latent deposit of wealth — be it in the realm of nature or of commercial organization. But I can give you the most categorical assurance that in the Anglo-Persian Oil Co. the touchstone of commercial return is applied to every proposition with the most rigid impartiality. Human judgment is fallible and its fruits are unequal. But of that great company, as I trust, of every great company of purely British constitution, it can be affirmed that its motives are clean and its objective is plain to all men.

Late Fields

(Continued from Page 47)

The Barnsdall Oil Co.'s No. 1 Walker, C SW NW Section 3-9-5, three-quarters of a mile northwest of the Empire's recent 11,000-bbl. well in the same section, got Wilcox sand at 4,375 feet and at 4,388 feet filled up 2,500 feet with salt water. It will be drilled to the Turkey Mountain horizon. This well lies a little over one-half mile northeast of a big Wilcox sand well of the Amerada Petroleum Corp. in Section 4-9-5.

Latest reports on wells near completion in the Seminole Field showed Barnsdall Oil Co.'s No. 1 Murrow, Section 11-8-6, swabbing 750 bbls. a day from sand at 4,212-13 feet; Indian Territory Illuminating Oil Co.'s No. 4 Davis, Section 13-8-6, swabbed 490 bbls. from sand at 4,202-4,301 feet; Carter Oil Co.'s No. 1 McGeisey, Section 21-8-6, flowed 190 bbls. from sand at 4,130 feet; Barnsdall Oil Co.'s No. 2; Prairie Oil & Gas Co.'s No. 3 Stidham, Section 11-9-5, Wilcox sand at 4,284 feet, flowed 2,070 bbls. in 20 hours from the top of the sand.

Production 416,001 Bbls.

The production of Seminole for the 24 hours ending Tuesday morning, June 28, was 416,001 bbls. from 557 wells, including the new well in Section 1-7-6. The pool, in 7-6, has not yet been given a definite name. It is the third pool in the Seminole Field opened by the Indian Territory Illuminating Oil Co., the others having been Seminole and Bowlegs.

T. B. Slick's No. 1 McCulley, in Section 21-5-6, Pontotoc County, has been shut in. The 8-inch pipe was set on bottom and it is reported the well was permitted to flow for a few minutes during which it showed clear oil with no water.

The Sholom Alechem Pool, in Carter County, showed some big wells in the past week. Wirt Franklin's No. 3 Franklin, SE NE, Section 24-1s-4w, started at 1,704 bbls. at 2,582-3,004 feet. Winkler & McQueen's No. 1 School lot, SE cor., Section 24-1s-4w, started at 1,660 bbls. at 3,280-3,304 feet.

EAST AND NORTHEAST TEXAS

HOUSTON, Tex., June 28.—The Humble Oil & Refining Co.'s No. 1 Earle and Ragsdale, 800 feet north of the same company's No. 1 Elliott & Clark, the discovery well in the Carey Lake section of Cherokee County, is reported to have cored a sand at 4,320 feet, which was sent to Houston for examination at the general offices of the company there. The depth is about 400 feet below where the discovery well got the sand.

The casing has been reset and cemented in the discovery well and another test will be made. The well has been flowing some oil and then making salt water. Efforts are being made to shut off the salt water.

The plug was drilled out and the well began flowing 30 bbls. of oil per hour, with very little water but the water increased until the flow was nearly all water. It is believed at the well that the cementing job was faulty.

The Humble Oil & Refining Co.'s No. 1 Jarvis, 11 miles east of Palestine, which got salt water last week at 4,500 feet is being deepened. Same company is rigging No. 1 at Camp Hill, 7 miles southeast of Palestine. No. 1 Reynolds Mortgage is drilling around 3,600 feet. Cosden's No. 1 Douglas, Keechie Dome, 7 miles northeast of Palestine, is around 2,000 feet.

In Smith County, C. M. Joiner has made a location for No. 1 Miller on a block of 5,200 acres. H. C. Dickey's No. 1, 9 miles west of Tyler, is drilling below 1,500 feet.

The Magnolia Petroleum Co. will attempt to bail open hole in No. 1 McPherson, 2 miles northeast of Rice, Navarro County, at 4,354 feet. A favorable looking core was taken. The company has 9,000 acres around the well. Same company's No. 1 Gage, 4 miles east of Corsicana, is drilling below 1,650 feet. The territory west of Corsicana is getting another play for the first time in six years. The Wild Rose Oil Co. is drilling on the Little land, 4 miles west of town, at 1,700 feet and Jones and others' No. 1, three locations southwest of the Wild Rose test, is drilling around 1,500 feet.

The seismograph and torsion balance are being used extensively in Smith, Henderson, Wood and Rusk Counties by such companies as the Gulf Production, Humble Oil & Refining, Roxana Petroleum, Amerada, Pure Oil and Simms Oil. Geophysical explorations in Smith County are being made around Baskom, Garden Valley and Belcher.

Priestly and others have a derrick up for No. 1, 2 miles west of Mineola, Wood County.

GULF COAST

HOUSTON, Tex., June 28.—The Humble Oil & Refining Co.'s No. 10 Beaumont, in the bay waters at Goose Creek, reported making 145 bbls. at 4,300 feet after being worked over, has increased its output to 415 bbls. per day. It is about 100 feet from shore. The well sanded last April. To date it produced 1,454,953 bbls. Last year it started flowing while the tubing was being pulled. The gas and oil ignited and two of the crew were burned to death and several others injured.

Stratton Ridge Dome, a semiwild proposition in Brazoria County, will probably see the completion of one or perhaps two producers during the next 10 days. The Associated Oil Co.'s No. 1 Seaburn is fishing for drill pipe after drilling into about 20 feet of sand around 4,080 feet. The Pure Oil-Humphreys Corp. joint No. 1 Armstrong is setting casing to test 16 feet of sand around 4,200 feet. The Gulf Production Co. has resumed work on its No. 2 Perry on the south flank of the Stratton Ridge Dome, which was reported abandoned in rock salt at 3,160 feet. Small wells have been developed on the north, northwest and northeast flanks of the dome in the past, but they failed to hold up and were eventually plugged.

TEXAS PANHANDLE

AMARILLO, Tex., June 28.—The fishing job at 3,393 feet at A. D. Morton & Co.'s No. 1 Reeder, Section 191, Block 3-T, was cleaned up Sunday and the well deepened to 3,406 feet with an increase in gas and oil. When the last foot of hole was made Monday afternoon and the tools pulled out, the well headed and made 60 bbls. of oil. Formerly it headed every eight hours and was making 90 bbls. daily. The pay is to be deepened slowly. Operators are reported to be planning to deepen the well 20 feet more.

Tex Thornton Oil Co.'s No. 1 Mullican, Section 21, Block B, R. M. Thompson Survey, formerly Engle King's No. 1, in Hale County, is to be tubed. The well is estimated to be a 3-bbl. well from 407-12 feet and is in rank wildcat territory. Location has been made for the northwest offset to be two locations north and one location west in Section 25.

H. W. Bleame and associates' No. 1 Thompson, NW SW NE Section 5, Block Y, M. & C. Survey, swabbed 209 bbls. the first nine hours from pay at 2,720-37 feet. Little storage is available, and because the well has no pipe line connection it is shut down.

LOUISIANA

SHREVEPORT, La., June 28.—W. R. Ramsey's No. 1 Dodson, Section 16-23-12, Carterville Field of northern Bossier Parish, blew in late Monday, making an estimated 20,000,000 feet of gas and a spray of salt water daily from sand at 3,086-93 feet. Bailed down only 1,000 feet, it blew the liner up into the connections. Arrangements are being made to kill the gas and reset the liner.

GULF COAST

HOUSTON, Tex., June 28.—The Gulf Refining Co.'s No. 5 Lutcher Moore in the new Stark Pool in Louisiana is flowing 1,500 bbls. at 4,760 feet.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., June 28.—H. H. Temple has closed down indefinitely his No. 1 McAllister, Edward Kellett Survey, Guadalupe County, in Austin chalk at 1,950 feet.

WEST TEXAS

FORT WORTH, Tex., June 28.—The Mid-Kansas and Transcontinental Oil companies' No. 6 Yates-A, in Pecos County, flowed 10,209 bbls. yesterday through a 6-inch line direct to a 55,000-bbl. tank and also flowed several thousand barrels through 3-inch line to earthen storage; estimated total, 17,000 bbls. All other Yates Pool wells are shut in except No. 1-C, which flowed 229 bbls. in 13 hours through five-sixteenths inch choke. Six-inch casing seat was lost in the big well and they are now trying to cement it.

HENRY CLAY PIERCE DIES IN NEW YORK CITY

NEW YORK, June 27.—Henry Clay Pierce of St. Louis and New York, formerly prominent in the oil industry, died today, aged 78 years.

He began as a messenger in a bank at St. Louis at the age of 16. At 19 he had established his own business and a short time later launched the firm of H. C. Pierce & Co. in the oil business.

He married Miss Minnie Finlay, a daughter of John R. Finlay, who had established in St. Louis the first oil refinery west of the Mississippi River. Pierce established the oil firm of Waters-Pierce & Co. in 1873, and as the railroads were built into the Southwest he followed them into Oklahoma, Arkansas and Louisiana. He entered the Mexican oil field before oil had been discovered there and owned refineries in Tampico, Vera Cruz and Mexico City, shipping his oil from the United States. When the Waters-Pierce company became the Pierce Oil Corp. in 1913 he assumed the position of chairman of the board, retaining that post until his retirement.

FIVE DERRICKS BURNED AT ALAMITOS HEIGHTS

LONG BEACH, Cal., June 27.—Five derricks were burned and equipment of several wells were damaged by a fire which swept a part of the Alamitos Heights oil field. The damage was estimated at $1,000,000.

Two workers were burned severely in the blast which started at a new well of the Julian Petroleum Corp. This well was destroyed, as were Johnson's No. 1 Copeland, adjoining; the No. 1 McCaslin and No. 3 McCaslin of the United Drilling & Petroleum Corp., and the Richfield Oil Co.'s No. 1 Bonner.

Badly damaged were the Kinbig No. 1, the Kohush-Johnson well and the George Getty No. 6. Two wells of the California-Eastland Oil Co. and several others caught fire but were saved.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

BURNING QUALITY OF KEROSENE BY LANTERN TEST

Have you a description of what is known as the lantern test for determining the burning quality of kerosene? Is this a standard test which has been adopted by any association?—W. S. L.

The railroads submit with their specifications for burning oil definite directions for making lantern tests, but there is no standard lantern specified. The details as to type of lantern vary with the road. You may have reference to the United States Government lantern test which is used for testing lighthouse kerosene. These directions are as follows:

Lens lantern. The kerosene shall be burned in a standard lens lantern equipped with a standard "fifth order lamp." This lamp uses a single cylindrical wick aproximately 1 inch in diameter and has both center and outside draft. The wick shall be adjusted so that the average height of the flame, exclusive of tongues, is 30 mm. above the top of the burner cone. The final adjustment of the wick shall be made within 6 hours of the commencement of the test. When burned in accordance with these requirements, the kerosene must give a steady, even flame without smoking. After 120 hours of continuous burning, the loss in horizontal beam candle-power shall be less than 10 per cent, there shall be no black or colored deposit on the chimney, not more than a trace of white deposit, and not more than a slight incrustation of the wick.

Post lantern. The kerosene shall be burned in a standard "type B post lantern" equipped with a standard "type B post-lantern lamp." This lamp uses a single flat wick approximately seven-eighths inch wide. The wick shall be adjusted so that the average height of the flame, exclusive of tongues, shall be 15 mm. above the top of the burner cone. The corners of the wicks shall be cut away slightly to reduce tongues as much as possible. The final adjustment shall be made within six hours of the commencement of the test. When burned in accordance with these requirements, the kerosene must give a steady, even flame without smoking. After 192 hours of continuous burning the loss in horizontal beam candlepower shall be less than 30 per cent, there shall be no black or colored deposits on the chimney and no serious incrustations of the wick.

Other tests, in addition to the above, are to be found in Technical Paper 323A Bureau of Mines.

ANALYSIS OF CRUDE OIL FROM CRANE COUNTY, TEXAS

Will you kindly supply, if possible, an analysis of Crane County, Texas, crude. —N. C.

The following is from a sample produced from No. 1 University, Section 34, Block 30, University Land.

Gravity, 31.6 A. P. I.
Pour test, 6 F.
B.s., 0.15 per cent.
Water, none.
Viscosity, 68 at 70 F.
Color, dark brown.

Products Separated

			Pct.
Gasoline			27.5
	Gravity	56.9	A.P.I.
	Initial	116	F.
	Endpoint	434	F.
Kerosene			8.9
	Gravity	41.3	A.P.I.
	Flash	176	F.
	Fire	196	F.
Gas oil			11.5
	Gravity	35.0	A.P.I.
	Flash	210	F.
	Fire	235	F.
Wax distillate			13.3
	Gravity	29.6	A.P.I.
	Flash	215	F.
	Fire	300	F.
	Viscosity	51	at 100 F.
	Pour test	50	F.
Fuel oil			38.2
	Gravity	15.8	A.P.I.
	Flash	425	F.
	Fire	495	F.
	Viscosity	211	at 210 F.

PRODUCTION AND USE OF CARBON BLACK

How is carbon black made and what is it used for in addition to the manufacture of printers ink? Have you any information concerning the demand and supply of this material?—M. H. J.

Information about the details of manufacturing carbon black are to be found in Bulletin 192, of the United States Bureau of Mines; The Oil and Gas Journal, June 9, page 70, and June 16, page 16, 1927.

Fully 80 per cent of the carbon black produced in the United States is, according to R. L. Carr, in The Oil and Gas Journal of June 16, made from natural gas by the channel process. In this process the gas is burned so as to produce a smoky flame. The flames are brought in contact with slowly moving channels. The comparatively cool surface of the iron channels cause the carbon to be deposited from the flame. The deposit is scraped off and conveyed to the packing house; where it is bolted, compressed and packed in paper bags. The standard package is one containing 12.5 pounds.

The uses for carbon black are shown by the Bureau of Mines for 1925 as follows:

	Lbs.
Rubber trade	86,329,000
Export	43,183,000
Ink	22,389,000
Paint	11,757,000
Cement coloring, stove polish, crayons, linoleum, bookbinding etc.	11,973,000

There is an increasing demand for carbon black in the rubber industry and especially for the manufacture of automobile tires. A rubber and sulphur mixture has a tensile strength of 1,150 pounds. By adding an equal quantity of zinc oxide, the tensile strength may be increased to 3,400 pounds. However, by substituting for the zinc oxide 35 per cent of carbon black, the tensile strength of the resulting product increases to 4,000 pounds to the square inch. The carbon black-rubber compound is stronger and more resilient, wears longer, is less susceptible to cuts, abrasion, or punctures.

The supply of carbon black is at the present time between 70,000,000 and 100,000,000 pounds in excess of the market demand.

DEVELOPMENT OF THE KEROSENE LAMP

Who is credited with the invention of the modern lamp and when was kerosene first used as illuminating oil?—S. R. W.

The burning of fats and oils for the production of light has been practiced since very early in the age of man. The modern lamp dates from 1782 when Argand originated a lamp in which arrangements were made for regulating and directing the supply of air, thus making possible a clear, steady, smokeless flame. The glass chimney is reported to have developed from the accidental placing of a broken bottle over a candle flame. The first Argand lamp had a tubular wick, the necessary air being supplied through the center tube as well as outside through the perforated metal platform upon which the chimney was fixed. The oil reservoir was above the lamp and oil flowed through a tube to the wick.

The evolution of the lamp and the early use of kerosene is described in a paper, read before the Institution of Petroleum Technologists, by Kewley and Jackson, "The Burning of Mineral Oils in Wick-Fed Lamps," as reported in the Oil and Colour Trades Journal, May 14, 1927. The following is from this paper:

The plain cylindrical chimney of Argand was modified to a tapered form by Smethurst, the lower part of the chimney being widened out to a bulb. A great advance was made when a flat wick was forced to adjust itself to an annular tube, as in present-day lamps. In 1852 Stobwasser designed an Argand burner for use with coal oil. Austin introduced into the United States the Vienna burner, and Young produced the first English mineral oil lamp for shale oil. This lamp, known as the "oxydate lamp," had a flat metallic tube, within which the wick was raised and lowered by a simple lever, the air was supplied by means of an elliptical deflector or cone, and a glass chimney was fitted. In 1865 Hinks introduced the well-known duplex burner. Developments then went apace, and a host of lamps of great variety appeared.

The illuminants in use before the advent of kerosene were fats, vegetable and other oils; also the so-called camphine, a mixture of alcohol and turpentine.

About the middle of the nineteenth century manufacturers began to turn their attention to the production of mineral oils. In 1840 a coal oil was produced in France by the distillation of bituminous coal. The Kerosene Oil Co. of New York began operations in 1854, under Gessner patents, on the soft coal of Novia Scotia. By 1875 there were over 50 plants in the United States making coal oil. In 1855 Professor Silliman, Jr., who had done some work on petroleum, "rock oil," predicted that from that crude material "as good an illuminant as any the world knew might be made." In 1857 the Carbon Oil Co. received their first consignment of 12 bbls. of petroleum from Tarentum, Pa., and worked it up into kerosene. This was the beginning of the history of petroleum as an illuminant.

VELOCITY LIMITS FOR PITOT TUBE MEASUREMENTS

What are considered to be the limits of velocity which will permit the use of the Pitot tube for measuring the volume of gas?—C. G. H.

The Pitot tube is not an instrument which actually measures the volume of a gas, but it is a device for determining velocity of a gas as it flows over or passes an opening the area of which is known. The velocity serves as a means for computing volume. The data involved include measurement of the difference between the static pressure and the velocity pressure.

The Bureau of Standards, Circular 309, states that the range of velocities for which a Pitot tube may be used extends from about 30 feet a second to near the velocity of sound, or approximately 1,100 feet a second. The maximum velocity within the range of pipe line or well conditions under which the Pitot tube may be used, will probably depend more upon the strength of the instrument to withstand the necessary pressures than upon the physical principles involved. Velocities below 30 feet a second may be measured if a sufficiently sensitive differential gauge is used, such as an inclined manometer. It is suggested that in order to obtain reliable results, that an inclined manometer be used when measuring velocities up to 100 feet a second.

It is explained in this circular that when the gas velocity reaches that which a sound wave would have in that gas when under the temperature and pressure then existing, a pressure wave forms over the dynamic tip of the tube. This pressure wave is called a bow wave, because of its resemblance of the wave formed across the bow of a boat and it seems to have the effect of draining energy away from the dynamic tip so that the relation expressed by the equations for the computation no longer hold true.

DISTILLING IN PRESENCE OF INERT GASES IN PLACE OF STEAM

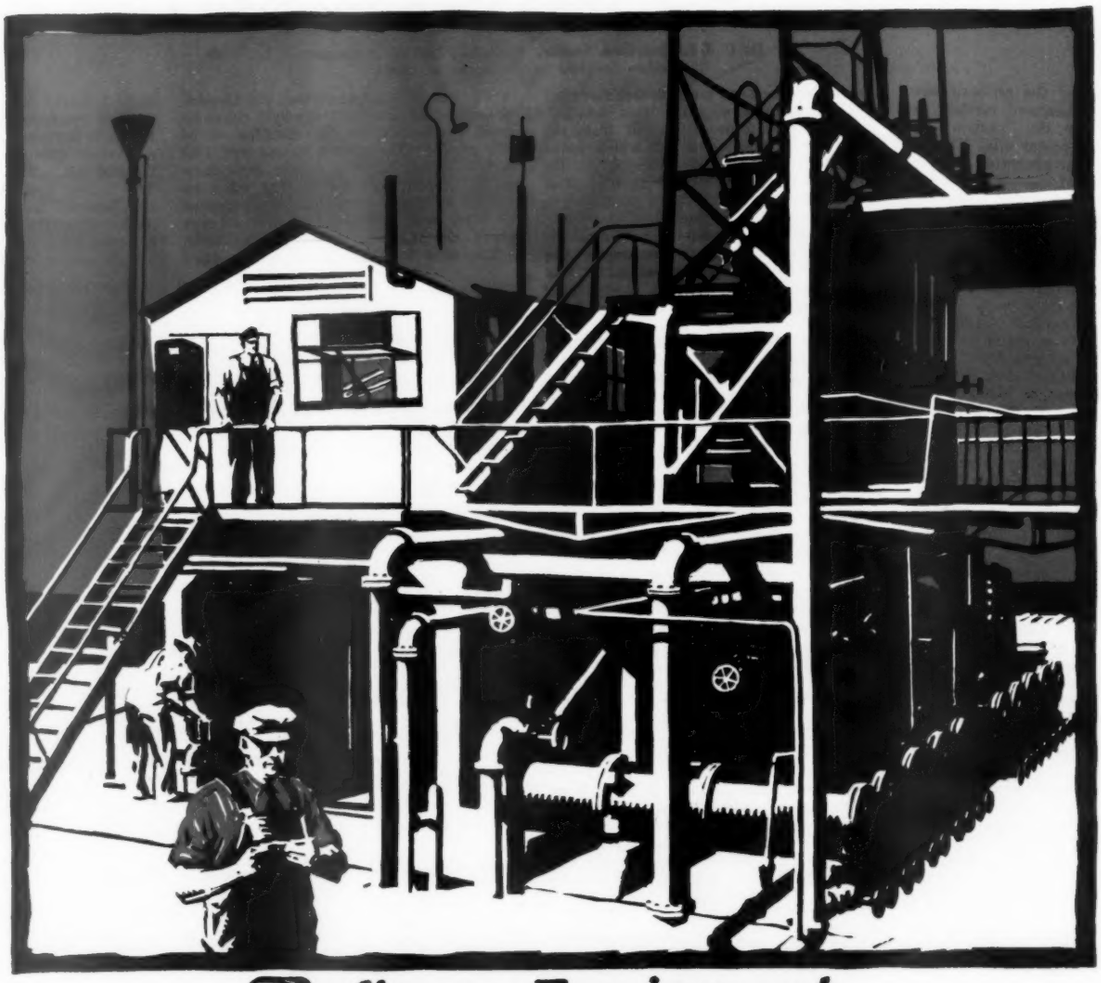
Would there be any advantage if fixed gases were used in the stills when reducing crude oil in place of steam? It seems that the quality of the products might be improved by the use of a gas which would give no liquid condensate.—M. E. Mc.

Many inventors have suggested that inert gases when introduced into the still produce desirable results. It must be remembered that the quantity of vapor given off from oil at a specified temperature at the surface of the oil into the surrounding space is definite. The introduction of steam and gases has for its object increase of the speed with which evaporation takes place, and thus accelerated the process of distillation.

It is considered to be true of all liquids that evaporation follows saturation of the space adjacent to the surface of the liquid, and no movement of the particles from the liquid can proceed beyond the rate at which the vapors are removed from this space. The velocity of diffusion of different vapors is slower for heavy vapors than it is for the lighter ones; that is, the diffusion of the vapors from a given oil should increase as the molecular weight of the gas filling the vapor space decreases. Evaporation then should proceed much faster in the presence of hydrogen, a very light gas, than when a heavy gas-like carbon dioxide is present. Natural gas, and especially methane should increase the rate of distillation.

Another object for the use of foreign gases and vapors includes solvent action. It has been proposed that the solvent action of gasoline, for example, would permit the separation of soluble hydrocarbons from the heavier and insoluble ones. The use of steam causes the distillation to take place at a lower temperature and accomplishes a rapid removal of the vapors from the still. With gasoline vapors it may be possible to do the same and in addition extract desirable hydrocarbons while excluding the undesirable hydrocarbons of the asphaltic class.

The presence of inert gases has been suggested for the purpose of preventing oxidation of the heavier fractions of the lubricating oils.



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Carbon Deposit of Heavy Motor Oils

Tests Show Proper Relationship Between Viscosity and Volatility to Secure Minimum of Residue in Cylinder

By C. J. Livingstone, Samuel P. Marley and W. A. Gruse*
Mellon Institute of Industrial Research

In previous papers[1] the authors have described an apparatus and method for estimating accurately the "carbon" depositing tendency of motor oils. The experimental work so far presented has covered petroleum oils of light medium and medium grades, tested under conditions corresponding to those prevailing for average automobile operation. The oils used were of different types on the market in this country, and it was shown that the differences in their carbon-depositing tendencies were real and significant. In general, it was found that oils made from Gulf Coast crudes left in the engine only half as much carbon as was deposited by those made from Mid-Continent blends or Pennsylvania distillates or blends.[2] The Mid-Continent distilled oils fell about half way between the Gulf coastal distillates and the Pennsylvania distillates. Work done since the publication of the previous papers has shown that a typical California oil of medium grade has practically the same carbon-depositing tendency as have corresponding oils of Gulf coastal origin.

A tentative explanation was offered for these facts, resting on the volatility, in the combustion space of the engine, of the various oils. Correlation of the engine tests with vacuum distillation tests showed that the carbon-depositing tendency increased with the average boiling points of the oils used. In addition, the presence of an appreciable amount of material nonvolatile at the cracking temperature, was also accompanied by a marked increase in carbon deposits. These relationships were interpreted to mean that the carbon found in an internal combustion engine is produced from that part of the oil which does not boil away from the inner surfaces of the cylinder head space at the prevailing temperatures. From this it was concluded that it is desirable to use an oil which combines the requisite viscosity with the ability to volatilize without cracking after it has been sprayed on to the combustion chamber surface. A similar correlation of the results of the engine work with the customary tests of the oils showed that there was an approximately straight line relationship between the amount of carbon deposited per liter of oil consumed and the Conradson carbon residue test as determined in the customary way. A tentative explanation of this relationship is offered at the end of this paper.

Experimental Work

While the results obtained indicated what would be expected of oils of the medium grades when used in ordinary automotive service, it was not certain that the same relationships would apply when the heavier oils (which are ordinarily used under the more severe conditions encountered in the engines of motor-coaches and trucks) were studied. Direct experiments were made to meet this doubt. The apparatus used was that employed in the previous work, consisting of an 850-watt Delco generating unit, so modified that every variable affecting carbon deposition was under control. The manner of making the tests was as already described[3], but the operating conditions were so changed as to simulate those prevailing in heavy-duty engines. The conditions changed were the load on the engine, the head temperature and that of the crankcase oil. The load was adjusted to give a power output from the generator of 900 watts, at which point the engine was definitely overloaded. By means of this overload and by control of the cooling water, the head temperature (as taken by a thermocouple in the head) was established at 495 degrees Fahrenheit. This temperature represents the upper limit for smooth operation. It was selected as a result of direct experiments on the temperature in the head of a four-cylinder engine, under full throttle pulling a steep grade and detonating severely. By passing a limited amount of steam into the jacket surrounding the crankcase, the oil temperature at the pump was maintained at 158 degrees Fahrenheit. This is believed to correspond to the average rather than the maximum temperatures prevailing in the crankcases of heavy-duty engines. The carburetor was adjusted to supply a mixture of air and fuel in a ratio of 11 to 1, and this was maintained by careful control. This mixture ratio was selected as probably typical of those used on the road.

Oils Tested

The same lot of fuel, a good average grade of motor gasoline, was used for all runs. The oils selected for test were two Gulf coastal distilled oils, one of 61 and one of 80 seconds Saybolt viscosity at 210 degrees Fahrenheit, and two blended oils of Mid-Continent origin, one of 60 and one of 85 seconds Saybolt at 210 degrees Fahrenheit. The customary test data on these oils are given in Table 1. It may be remarked that oils A are sold as "extra heavy" and oils B as "special heavy" products.

The procedure used in making the engine tests was that described in our previous publications. The duration of the runs was 15 hours. The amount of carbon deposited by each oil is expressed as the grams of deposit left in the engine per liter of oil consumed. This figure has been named the "carbon value." As will be seen from the data, the carbon values for both the gross deposit and for the deposit corrected for oil and ash content are given. The data are given in Table 2 and 3.

In Table 4 are presented data on the carbon residue test and carbon value of each oil, together with figures on the content of oily material in the deposit from each oil.

Discussion of Results

The data given in Table 2 for the "extra heavy" oils shows that the blended oil left about one and one-half times as much carbon as did the distilled oil of this grade. The actual ratios are 1.45 and 1.48 for the two engine conditions used. It should be noted that when no change in engine conditions had occurred between runs, the two types of oil gave practically the same oil consumption.

The data in Table 3 for the so-called special heavy oils bring out the same general relationship. The blended oil in this case left one and three-quarters times as much deposit as did the distilled Coastal oil. The actual ratio is 1.75. The higher ratio of carbon deposits for the "special heavy" oils would be predicted from the fact that the difference between the carbon residue values of these oils is greater than for the corresponding pair of "extra heavy" oils. This is discussed below. Again it should be noted that the consumption for the two oils is practically identical.

The previously published experiments on this subject yielded an overall ratio of about 2 to 1 for the deposits from Mid-Continent blended and Pennsylvania distilled oils as against Coastal distilled oils, all of medium viscosity. This ratio is higher than those here given which are 1.50 to 1.75 respectively. It should be remembered that the experiments with the medium oils were made at a lower head temperature, such as prevails in ordinary automobile driving, while the temperature here used was much higher, probably corresponding to that which obtains in heavy duty engines. It is common knowledge that truck engines, which though using very heavy oils, are operated under heavy load and high temperature, are less troubled by carbon deposition than are pleasure cars, which operate at a lower temperature and are seldom overloaded. This fits in with the results of our experiments.

Carbon Residue Test

In the previous papers on this subject

TABLE 1—TABLE OF PROPERTIES

Oil—	Gravity ° A. P. I. at 100° F.	Cold Test ° F.	Saybolt Viscosity at 210° Sec.	Flash Point ° F.	Fire Point ° F.	Conradson Carbon Per cent
Blend A	24.5	5	60.0	415	450	0.92
Distillate	19.8	10	61.0	385	420	0.22
Blend B	23.8	30	85.0	440	515	1.48
Distillate B	18.5	45	80.0	415	465	0.22

TABLE 2—TABULATION OF RESULTS—COMPARISON OF TWO EXTRA HEAVY OILS

Duration—15 hours. Air Fuel Ratio 11-1. Oil Temperature 158° F.
Room Temperature 86° F. Speed 1,170 R. P. M. Power 900 Watts
Head Temperature 495° F.

Run No.	Oil Used—	Consumption, cc.	Gross carbon, gms.	Wet carbon value grams per liter of oil consumed	Corrected gross carbon (less oil and ash), grms.	Dry carbon value grams per liter of oil consumed
	Motor Condition A[1]					
C-119	Blend A	265.0	2.013	7.6	1.732	6.6
C-106	Distillate A	280.0	1.583	5.6	1.267	4.5
C-113	Distillate A	290.0	1.583	5.4	1.329	4.6
	Motor Condition B[1]					
C-120	Blend A	205.0	1.970	9.6	1.484	7.3
C-121	Blend A	215.0	2.009	9.4	1.551	7.4
C-122	Distillate A	210.0	1.209	5.8	1.033	4.9
C-123	Distillate A	215.0	1.322	6.1	1.061	4.9

[1]A reassembling of the engine and an exchange of pistons occurred between the runs under Motor Condition A and Motor Condition B.

TABLE 3—COMPARISON OF TWO SPECIAL HEAVY OILS

Duration—15 hours. Air Fuel Ratio 11-1. Oil Temperature 158° F.
Room Temperature 85° F. Speed 1,170 R. P. M. Power 900 Watts.
Head Temperature 495° F.

Run No.	Oil Used—	Consumption, cc.	Gross carbon, gms.	Wet carbon value grams per liter of oil consumed	Corrected gross carbon (less oil and ash), gms.	Dry carbon value grams per liter of oil consumed
C-105	Blend B	225.0	2.705	11.9	1.998	8.9
C-108	Blend B	240.0	2.760	11.4	2.115	8.8
C-116	Blend B	245.0	3.071	12.5	2.447	10.1
		Av. 237.0				Av. 9.3
C-109	Distillate B	225.0	1.233	5.4	1.046	4.7
C-117	Distillate B	240.0	1.695	7.1	1.456	6.1
C-118	Distillate B	265.0	1.615	6.2	1.361	5.1
		Av. 243.0				Av. 5.3

TABLE 4
Comparison of Conradson-Carbon Value and Oil in Carbon

	Conradson Carbon Per Cent	Carbon Value*	Oil in Total Carbon Per Cent	Oil in Head Carbon Per Cent
Blend A	0.92	7.3	21.1	14.7
Distillate A	0.22	4.9	14.1	7.9
Blend B	1.48	9.3	17.6	10.0
Distillate B	0.22	5.3	11.6	6.5

*Grams of carbon per litre of oil consumed.

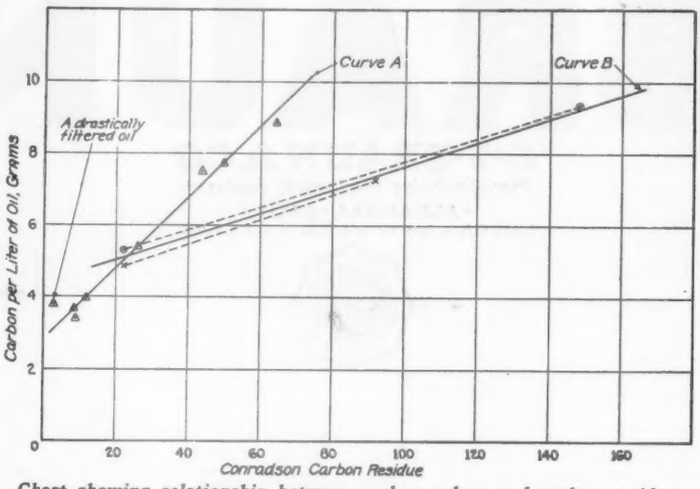

Chart showing relationship between carbon values and carbon residue test values.

*Paper presented to petroleum division of American Chemical Society at annual meeting held in Richmond, Va.

[1]Ind. Eng. Chem., 18, 502 (1926); J. Soc. Automotive Eng., 18, 607 (1926).

[2]By a blend is meant a mixture of relatively light (a so-called neutral) oil with "bright stock" which is a purified nonvolatile residuum from a Pennsylvania or Mid-Continent crude oil. Practically all motor oils from wax-bearing crudes must be so made to obtain the necessary viscosity.

[3]J. Soc. Automotive Eng., 18, 607 (1926).

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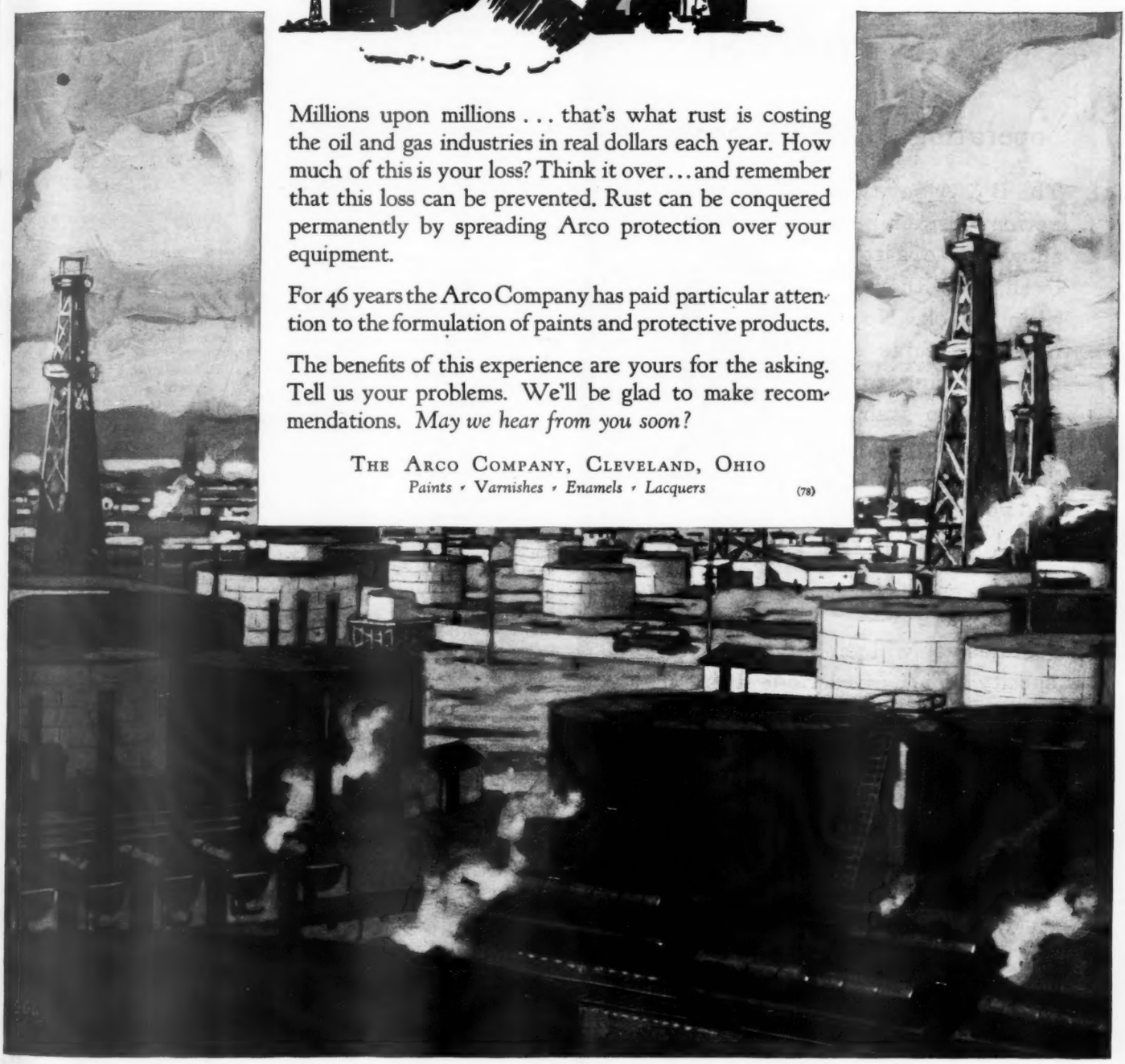

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the significance of the carbon residue test as a means of predicting carbon depositing tendency was pointed out and in one of them[4] a chart was presented showing the plotting of carbon values (grams of deposit per liter of oil consumed) against carbon residue test values. An approximately straight line relationship was established. Only data for oils of medium viscosity, tested at one operating temperature, were used in this chart. Additional figures belonging to this set have since been obtained. The entire set of figures has been used in the construction of Curve A in Figure 1. It will be seen that a straight line expresses very well the relationship involved. The one point definitely off the curve is for an oil which had been clay-filtered to a very pale color. This filtering apparently reduced the carbon residue value to a point beyond which the carbon depositing tendency ceased to be affected. The point is, at worst, not far off the curve, and this limitation on the relationship expressed is not believed to be significant, since very few engine oils are highly filtered.

When the data for the runs described in this paper are plotted on Figure 1 (Curve B) it can be seen that they fall also on a straight line differing considerably in slope from Curve A. It is suggested that the slopes of such lines are determined by the operating temperatures at which the oils have been used. As the operating temperature increases, it might be expected that the slopes of the curves would decrease until the lines were parallel to the horizontal axis. In other words, as temperature rises, the various oils would perhaps tend to deposit approximately the same amount of carbon. Of course, a temperature capable of producing this effect is impracticable for ordinary automobile operation.

Grade of Oil

It might have been supposed that the factor determining a change of slope would be the grade of oil used. This is probably not the case, as indicated by the dotted line joining the two circle points and that joining the cross points. The circle points are for the experiments with the "special heavy" oils, and the cross points for those with the "extra heavy" oils. These lines are approximately parallel. Since the oils are different and the operating temperatures the same, it is indicated that the temperature is the determining factor. This suggestion is given tentatively in view of the small amount of experimental data.

Significance of Test

In view of the apparent basic significance of the carbon residue test as an indication of the carbon depositing tendency of an engine oil, it is interesting to consider the reasons for such a phenomenon. If we analyze the conditions in the combustion chamber of a 4-cylinder engine during the different phases of the cycle, the following points can be seen:

After it has passed the piston rings, liquid oil is sprayed into the combustion space, forming a film of liquid oil on the surface of the cylinder head and on the face of the piston. During the intake and compression strokes, this film is exposed to low temperature atmosphere of hydrocarbon vapor and air, containing a maximum of 19 per cent of oxygen. During the power and exhaust strokes, the temperature is higher, but the oxygen content of the atmosphere becomes almost zero. When it is remembered that the oil film is hot enough to be blanketed by a rising layer of its own vapors, and that, furthermore, the rate of reaction between a gas phase and a liquid phase is quite slow, it will be seen that practically no oxidation of the liquid oil could be anticipated. It is generally agreed that combustible liquids do not burn in the liquid phase, so that whatever oxidation of oil occurs may be assumed to affect only the oil vapor which has already left the metal surfaces. Any carbon formed by such incomplete oxidation will almost certainly pass out of the combustion chamber with the exhaust gases. Such oil as remains unvaporized will be exposed to the repeated "broiling" caused by the periodic explosions. At the prevailing temperature, cracking certainly occurs, and such cracking undoubtedly leaves a gummy deposit which reduced to coke. It is to this deposition of cracking residue that the authors are inclined to attribute all carbon formation in gasoline engines as ordinarily lubricated. Likewise, in the Conradson carbon residue test, the oil which will distill off has no influence on the result, while the nonvolatile residuum stays and cracks to heavy residue and coke in much the same, say as it does in the engine. From this standpoint the Conradson test seems to us to measure, not the total carbon which the oil forms (this after all, is a matter of no interest) but that formed by the nonvolatile oil residuum remaining on the metal surfaces. From the agreement which the authors have found to exist between engine tests and Conradson tests, it appears that either all or a constant proportion of the carbon so formed remains adhering to the metal surface.

From these considerations it would appear desirable to use an oil viscous enough to supply the necessary lubrication, but volatile enough to vaporize after it has reached the piston and cylinder head surfaces, leaving a minimum of residue.

[4] J. Soc. Automotive Eng., 18, 607 (1926).

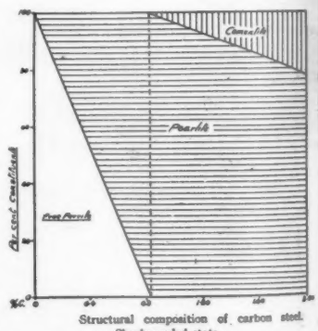
INCREASING STRENGTH OF SUCKER RODS

(Continued from Page 79)

to make a test. This is not, however, the whole time required because the applied loads must be found by trial. Ten or more specimens may be tested before the proper load is found. Under such conditions, testing two specimens simultaneously, two and one-half days of continuous work will be required to make one determination.

Fatigue Limit and Ultimate Strength

It is then very necessary to discover if some more easily determined physical property of steel may be found which has a direct relationship to the fatigue limit of the steel. Study of a great number of determinations has disclosed the fact that, as far as steels are concerned, the ultimate strength of the metal is a function of its fatigue strength.



Structural composition of carbon steel. Slowly cooled state.

fig 5.

This applies to steels of widely varying composition. Personally, I have determined that the ratio held true in such material as "stainless iron," containing 13 per cent chromium. The relationship may apparently be taken as quite universal.

This relationship between ultimate strength and fatigue limit may be expressed accurately enough for engineering purposes as: Fatigue limit per square inch equals the ultimate strength per square inch multiplied by 0.5, or shortly, fatigue limit is one-half the ultimate strength.

Increasing Strength of Sucker Rods

Having established this fact we may proceed more easily and on firmer ground with the problem. Any method which will substantially improve the ultimate strength of the steel (and at the same time preserve some other desirable properties) will also improve its fatigue strength and therefore make the metal more desirable for sucker rod purposes.

Three general methods may be used

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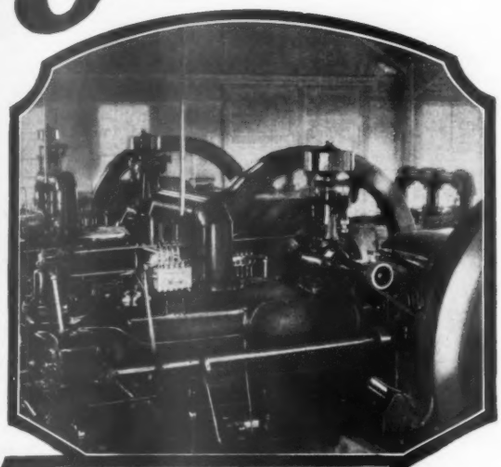

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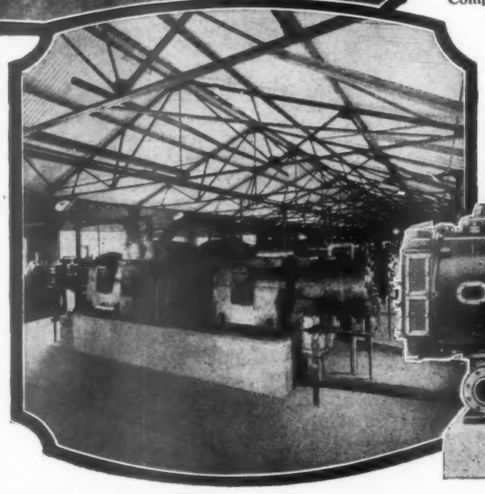
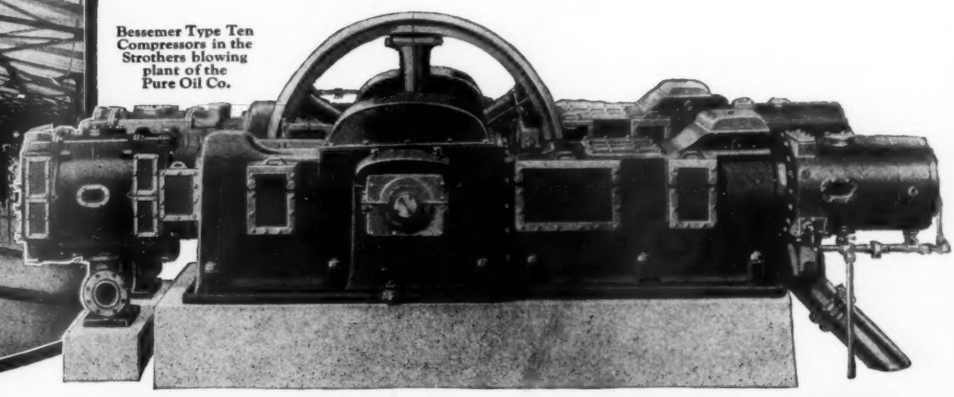


Bessemer Type Ten Compressors in the Strothers blowing plant of the Pure Oil Co.



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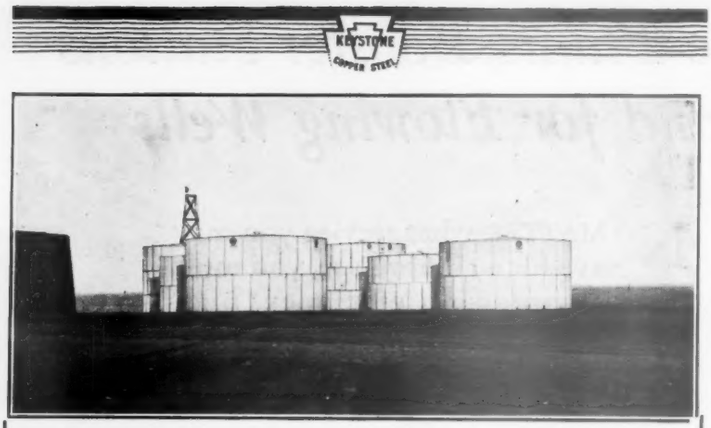

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to increase the ultimate strength (and fatigue limit) of steel:

(a) By increasing the carbon content.

(b) By heat treating lower carbon steels.

(c) By the use of heat treated alloy steels.

Let us discuss shortly each of these methods in turn:

Increase in Carbon Content

The general effects of the addition of carbon to steel are as follows:

1 Progressive increase in ultimate strength and elastic limit.

2 Progressive decrease in percentage elongation and reduction of area (ductility and malleability).

Actually, each 0.1 per cent carbon increase raises the tensile strength about

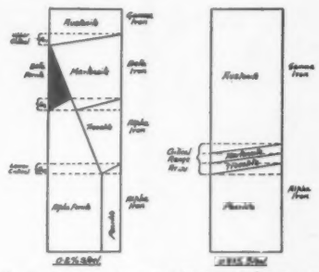

FIG. 5.—Structural changes in 0.2% C and 0.85% C steel.

Fig 6.

10,000 pounds per square inch, but at the same time it lowers the elongation in two inches about 10 per cent. In studying this method of increasing the strength, we find that before a suitable strength has been reached in the steel for sucker rod purposes, a very undesirable loss of ductility has occurred.

In the past, the increasing demands for stronger sucker rods have been answered by increasingly higher carbon steels. The point was ultimately reached where failure due to brittleness became alarmingly frequent. When this condition arose, another method had to be devised.

Heat Treating Lower Carbon Steels

A very long discussion could be given on the subject of the heat treatment of low carbon steels. Until a short time ago the subject had received but little technical notice and records of failure to obtain results were common. This was because certain factors were not understood.

For the present we may say that if properly selected steel, of comparatively low carbon content, is heat treated by suitable methods, a very considerable gain in ultimate strength may be obtained and this is at the expense of only a very slight decrease in ductility as compared with the loss in ductility which would occur if the gain in strength had been accomplished by an increase in carbon content. It is in this method of improvement in sucker rods that this paper is particularly concerned.

Use of Heat Treated Alloy Steels

There seems to be quite a little misconception in the lay mind as to what may be expected of alloy steels. The addition of alloy metals to steel is not, by any means, a cure-all for every ill. The addition of alloys to steel costs money; the increased cost per ton of steel for alloy alone is about as follows:

For each addition of 0.1% vanadium	$8.00
For each addition of 1.0% tungsten	24.00
For each addition of 1.0% Chromium	2.30
For each addition of 1.0% Nickel	8.00

It should be noted that these extra costs per ton are for the alloy elements only. Other necessary costs raise the price still more as compared with plain carbon steels. Alloy steels are not used unless benefits can be derived from the extra expenditure. To obtain the most benefit the steels must be heat treated. Alloy steels are generally used in the heat treated state.

The increased useful properties to be obtained from alloy additions can in general, only be realized when the steel is submitted to a more or less elaborate heat treatment. It is almost a metallurgical rule never to use alloy steel without heat treatment, because without it you cannot obtain an adequate return for the money spent for the alloy.

We may summarize the possibilities of the use of alloy steels in sucker rods as follows:

(1) Adequate ultimate strengths (and fatigue limits) may be obtained from some heat treated alloy steels but it will be found very difficult to obtain, at the *same* time, a degree of ductility, as measured by percentage elongation such as is considered desirable in sucker rod steel.

(2) A large increase in cost in rods will result because of the higher cost of the steel base.

(3) The alloy steels will require a more elaborate and costly heat treatment than is required to secure the same results with heat treated carbon steels.

The item of added expense seems to preclude, for the present at least, the consideration of the use of alloy steel rods.

Constitution of Steel

When a specimen of 0.9 per cent carbon steel is suitably polished, etched and viewed under a high power microscope, it is seen to be not a homogeneous substance but a conglemerate of two definite constituents. These constituents are arranged in layers or leaves, known technically as "laminae." One kind of layer appears bright to the eye and is a chemical compound of iron and carbon called "cementite." It has a formula of Fe_3C and contains 6.67 per cent carbon; the other kind of layer consists of pure iron and is called "ferrite." The aggregate of ferrite and cementite is called "pearlite." Pearlite always contains 0.9 per cent carbon in ordinary plain carbon steels. The appearance of pearlite is shown in Figure 2.

Let us investigate the structure of a steel containing less than 0.9 per cent carbon. If the steel contains 0.45 per cent carbon the miscroscope will reveal the fact that the metal is made up of distinct grains called "polyhedra" or many sided figures. Some of the grains appear dark and some light. The dark grains when carefully examined, are found to be laminated pearlite, while the light grains are pure iron or "ferrite." This ferrite is called "Free" ferrite to differentiate it from the ferrite bands seen in the pearlite, which are called "pearlite" ferrite. This discussion of heat treated rods deals with steel containing less than 0.9 per cent carbon.

Mechanism of Heat Treatment

When a piece of 0.9 per cent carbon steel is heated to a certain temperature (about 1,325 degrees Fahrenheit), the

SUCKER ROD AND FLUID WEIGHTS

¾"x30' rods with 1⅝"x6" Couplings.
Average weight with couplings per foot, 1.515 pounds.
Fluid figured at specific gravity of .85.
If fluid is mostly water add 14% to weight of fluid.

	2½ PEX CUP PLUG				
	1000'	2000'	3000'	4000'	5000'
Approx. Pressure per sq. in.	2600#	5200#	7800#	10400#	13000#
4" TUBING					
Area 1⅝" plunger 2.60 sq. in.					
Net area fluid on plunger 2.06 sq. in.	7434#	14868#	22314#	29754#	37194#
Weight of fluid on plunger	1618	3236	4853	6471	8089
Weight of rods					
Total load on top rods	4380	8760	13140	17520	21900
3½" TUBING					
Area 2¼" plunger 3.97 sq. in.					
Net area fluid on plunger 3.53 sq. in.	1261	2522	4521	6030	7537
Weight of fluid on plunger	1613	3226	4840	6453	8066
Weight of rods					
Total load on top rods	2900	5913	9360	11835	14787
Area 2¾" plunger 5.93 sq. in.					
Net area fluid on plunger 5.49 sq. in.	7866	15732	23598	31464	39330
Weight of fluid on plunger	1613	3226	4840	6453	8066
Weight of rods					
Total load on top rods	9701	7400	11305	14800	18500
4" TUBING					
Area 3⅛" plunger 11.04 sq. in.					
Net area fluid on plunger 10.6 sq. in.	6626	26504	39756	53112	66390
Weight of fluid on plunger	1613	3226	4840	6453	8066
Weight of rods					
Total load on top rods	2052	11286	16900	22172	27

Fig 7

ferrite and cementite in the pearlite of which it is composed, becomes soluble in each other forming what is known as a "solid" solution. This solution has the name "martensite" and has quite different properties from those possessed by pearlite. Its properties are those of a fully hardened tool steel. Martensite can be retained at room temperature by suddenly cooling the steel. The temperature at which pearlite changes to the solid solution is known as the "critical" temperature of the steel. On the other hand, if, after the martensite has formed, the steel is allowed to cool slowly instead of quickly, cementite and ferrite will become insoluble in each other again and

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pearlite will form. The steel will then have been annealed.

Reverting to the 0.45 per cent carbon steel, which consists, as will be remembered, of pearlite plus crystals of free ferrite, it is easy to calculate that one-half of the steel crystals consists of free ferrite and one-half of pearlite. Figure 5 shows graphically the structural composition, in the slowly cooled or "normal" condition, of steels of various carbon content.

If this steel is heated to the critical temperature, the pearlite grains will revert to martensite as before, while the free ferrite will remain unaffected. If the steel is now quenched in water, we get glass-hard particles of martensite embedded in a matrix of pure iron crystals, which are nearly as soft as copper. Suppose, however, that the heating is not

Finish	Relative Fatigue Range	Actual Fatigue Range
Rough turned	81	40,000 lbs.
Smooth turned	89	41,300 lbs.
Ground	89	44,000 lbs.
No. 0 and 00 Emery cloth	99	49,000 lbs.
Emery paper and rough polish	100	49,400 lbs.

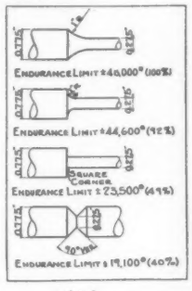


Fig 6.
Effect of design and finish.

limited to 1,325 degrees Fahrenheit, but that the specimen is gradually heated to, say 1,550 degrees Fahrenheit. As the temperature is raised over the critical range, the free ferrite crystals are gradually taken into solution by the martensite. At a temperature of about 1,500 degrees Fahrenheit all the free ferrite will have been absorbed and the martensite will become correspondingly diluted in carbon until it contains only 0.45 per cent carbon, instead of 0.9 per cent carbon as was the case in 0.9 per cent carbon steel.

The diluted martensite formed in this manner may be retained at room temperature by sudden cooling, and when so retained the steel possesses quite different properties from those exhibited by normal steel of the same composition. The strength and hardness are much greater than originally. In this heat treated state a 0.45 per cent carbon steel may have a strength greater than that of a normal (slowly cooled) 0.9 per cent carbon steel, but still retain a considerable portion of its original ductility. What has been said may be represented graphically in Figure 6.

Similar reactions and proportional results may be obtained with steels containing less than 0.45 per cent carbon. In this regard, it may be of interest to know that a piece of soft steel containing 0.20 per cent carbon can be treated by somewhat similar methods so that it will acquire a hardness of 600 Brinell; 440 Brinell will scratch glass.

An attempt has been made in as few words as possible to demonstrate the basis of heat treatment as applied to sucker rods. There are, of course, quite a number of other factors involved. The proportion of manganese present in the steel is an important factor and clean steel, free from non-metallic inclusions is a requisite. Temperatures and times of heating as well as selection of proper quenching media must receive careful attention in order to obtain uniform reliable and desirable results.

Metallurgical Design of Sucker Rods

Having decided that, by proper methods of heat treatment a steel of superior ultimate strength and good ductility can be produced and also that fatigue strength is a function of ultimate strength discussion is in order regarding how these factors can be directly applied to the design of sucker rods, which may be expected to give better results in service. A number of factors must be considered in order to arrive at an estimate of the ability of a rod to operate continuously and indefinitely under specified pumping conditions. These factors may be listed as follows:

(1) Calculations must be made as to the weights of rods and fluids for different pump tubing sizes and varying depths of wells. An estimate or guess must also be made of the amount of friction.

(2) The relation between ultimate strength and fatigue limit must be determined. At the beginning of this discussion, it was decided that

$$\frac{\text{Limiting Stress}}{\text{Ultimate Strength}} = 0.5$$

(3) The effect of surface design, especially of rod pins, is of importance in its relation to fatigue limit. The rougher the surface the lower the endurance.

Practical Results

It has been estimated that, previous to the introduction of heat-treated sucker rods, rod failures could be divided into 80 per cent of pin failures to 20 per cent of body failures. About 2½ million feet (which by the way is over 470 miles) of heat treated rods have been produced and put into operation. Of these about 1,700,000 feet are in California wells. The number of cases of broken pins which have been reported are so few amounting to not over 20 in the 160,000 pins in use, that pin breakage may be said to have been entirely eliminated.

At the present time only the rod ends or pins are heat treated. Nevertheless a very remarkable decrease in rod body breakage has manifested itself. The reason for this was obscure until it was realized that since 80 per cent of the previous rod failures had been eliminated, the rod strings were correspondingly "cork screwed" in the wells a correspondingly fewer number of times. The bad effect of kinking on the life of the rods was mentioned earlier in this paper.

Finally in regard to field results in California, a few typical cases may be mentioned. At Signal Hill, Huntington Beach and Santa Fe Springs the records of four different operating companies showed that 132 strings were in operation for an average of 9 months with only three pin breaks. Two of these operators had 64 strings in operation for ten months with no breaks at all.

Another interesting field result was obtained by one operator who could find

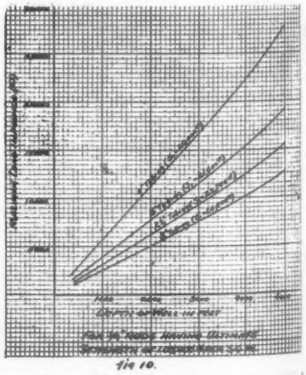
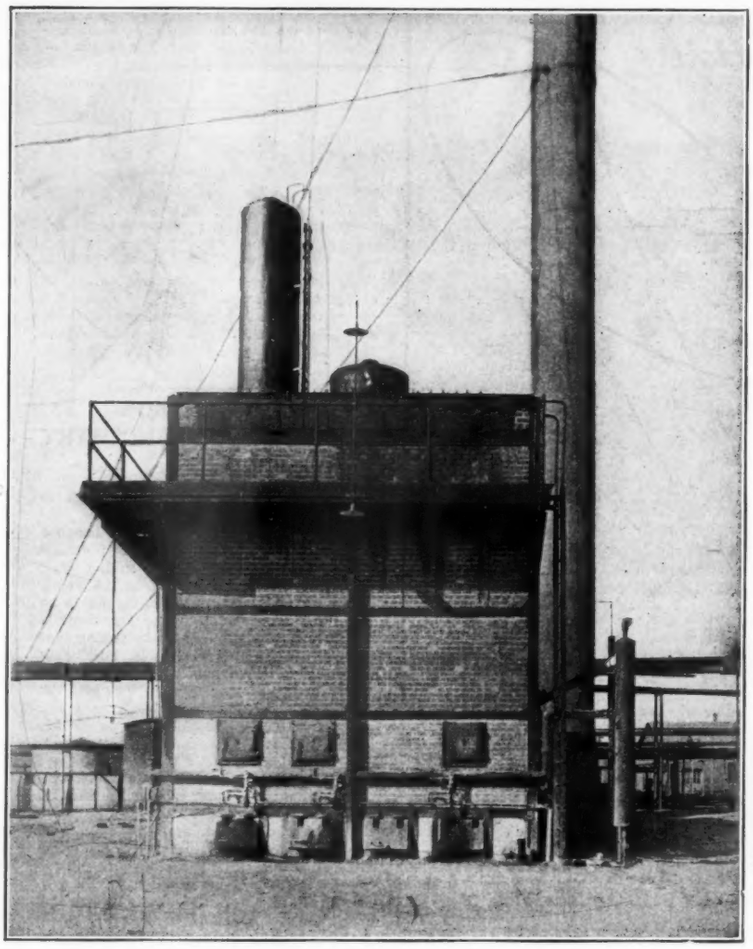


Fig 10.

no rod capable of lasting over one week in his well. It was finally necessary to lift the pump 600 feet from the well bottom. The older rods were then replaced with a string of heat treated rods and the pump was replaced at the bottom of the hole. No breakage has occurred since March 9 and the well is averaging 71 bbls. of oil more per day than before the change was made. The well is ahead about 6,000 bbls. of oil.

Conclusions

It is felt that the oil industry, in the past, has not received the technical attention along metallurgical lines which it has deserved. Modern conditions have become so severe on equipment that the industry is forced to demand the best



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to use

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that is to be obtained. Close co-operation between the oil man and the metallurgical technologist has not only become desirable but imperative.

The advent of heat treated sucker rods is only a forerunner of what may be expected in the way of improved equipment. Deep well conditions have made it necessary to find means of increasing the resistance to collapse of oil well tubing. A study of this problem which has been undertaken in collaboration with one of my associates has been nearly concluded. We have found that a very great improvement can readily be made if due attention is given to the choice of materials. Some of us in the metallurgical field who are engaged in such studies must rely for information and practical observation upon the operating oil men.

USE OF A. P. I. TUBING URGED UPON INDUSTRY

(Continued from Page 79)

threads do not make up well enough to provide a fluid-tight joint.

It should be pointed out that, because of the upset end, the argument that the coarse thread weakens the tubing wall is unsound. The difference in the depth of an 11½-thread and a 10-thread is so small it is a question if the argument is sound even if applied to plain tubing, not to mention upset tubing. In California hundreds of thousands of feet of 3-inch, 10-thread plain tubing is in use and the continuance of this practice over many years, until the adoption of A. P. I. standard 3-inch, 11½-thread plain tubing, is evidence enough that the joint was not conspicuously weak.

Likewise the assertion that 10 threads, because of their coarseness, do not make fluid-tight joints, cannot be supported by facts as developed from field experience. In California, where the deepest pumping wells are now being operated, all producers have used 10-thread tubing for many years. During the past five years many pumping strings have been set at depths of from 4,500 to 5,000 feet without evidence of leak. Fluid pressures at the bottoms of such strings sometimes amount to more than 2,000 pounds per square inch, which is certainly a severe test on any string of tubing.

Less Danger

The chief technical argument in favor of 10 threads over 11½ threads is the coarseness and therefore the ruggedness of the thread. By virtue of a wider and deeper thread, the same amount of wear from making and breaking joints results in less danger from tubing dropping out of couplings because the area of thread contact of 10 threads after wear might easily be more than the initial area of contact between 11½ threads. Pulling tests at steel mills have indicated that tubing "jumps" out of collars under severe tensile loads although casual examination of the threads may fail to show stripped threads. Close examination, however, has shown that the threads are slightly flattened on the sides resisting the pull and this evidence leads to the belief that the tubing end contracts and the collar expands momentarily to allow the joint to jump. If this actually occurs, the amount of contraction and expansion before a joint jumped would have to be greater in 10-thread tubing than in 11½-thread, because of the greater depth of a 10-thread. The slip would therefore be less likely to occur in 10-thread joints.

Advantages of A. P. I.

Aside from these technical arguments which, it must be admitted, favor 10-thread upset tubing, I wish to point out other advantages of adopting A. P. I. standard tubing.

1. If A. P. I. standards are used tubing of different makes will go together, properly and safely, in the field.

2. Operators not using A. P. I. specifications will be purchasing "special order" goods. While this might be obtained now at the same cost as A. P. I. standard tubing, still in rush periods, the tendency of manufacturers will be to make and stock A. P. I. standard tubing and any other kind may sell for a premium because it will be a special order. Also in rush times the suppliers' stocks will all be made up of A. P. I. tubing and orders of special tubing will either have to be foreseen two or three months ahead or delays will occur and substitutions of A. P. I. tubing will have to be made.

3. Use of special sizes necessitates increases in producers' stocks of tubing and subnipples and will add to the general confusion in the field by introducing special sizes.

4. Working barrels, tubing catchers and tubing heads will all be manufactured with A. P. I. standard threads and the use of any other kind of tubing will require subnipples or special order barrels, catchers and the like. Such practice will be so costly and bothersome that an operator should not countenance it when the whole matter can be so satisfactorily settled by using A. P. I. tubing.

5. No standards or gauges have been established for any but strictly A. P. I. standard tubing and failure to use A. P. I. standards loses the producer all the advantages of standardization, namely, workmanship, interchangeability, recourse to manufacturer, and the like.

Inconvenience to Few

I can only think of one possible disadvantage to the adoption of A. P. I. tubing and that is the inconvenience at a few wells where the new tubing will have to be mixed with the old. This objection strikes at the heart of our standardization work for if we were to allow this objection to rule, the standardization movement may as well never have been started.

The inconvenience of mixing tubing is suffered alike by all operators, whether Eastern, Mid-Continent or California, because the new joints are different from all of the old joints in length of thread engagement and subnipples must be used in mixed strings to insure greatest safety. We are largely overcoming the necessity for mixed strings in California by installing complete new strings of A. P. I. tubing in wells and salvaging the good joints of the old-style tubing. Occasionally when a few joints of old-style tubing are bad in a certain well they are replaced from the salvage stock of old-style tubing. In addition we use much old-style tubing that is no longer fit to run in wells, for line pipe, so actually very little mixing of strings is necessary.

So many advantages are attached to the use of strictly A. P. I. tubing that it would not seem that further argument would be necessary. However, through the assistance of the supply companies, I am able to present some statistics on the use of A. P. I. tubing in California during the past year, that are convincing in themselves.

Five suppliers have sold 3,656,000 feet or 692 miles of A. P. I. specification tubing in California. Ninety per cent of this was 10-thread upset.

Every operator in California so far as can be learned, is buying nothing but A. P. I. specification tubing. All the major oil-producing companies specify A. P. I. tubing.

The largest supplier has distributed 2,286,000 feet or 433 miles of tubing among 51 customers and has not had a single complaint.

These are the facts on A. P. I. tubing and to me present such a convincing argument that I cannot imagine operators further refraining from purchasing A. P. I. tubing once the situation is understood.

In the interests of standardization, as well as of best practice, it is my pleasure to recommend and even urge all oil operators to adopt A. P. I. tubing. The advantages are so many that you are justified in giving this matter immediate consideration and a favorable decision.

PANHANDLE GEOLOGISTS

At a recent election of the Panhandle Geologic Society of Amarillo, Tex., the following officers were elected: President, C. Don Hughes, Empire Gas & Fuel Co.; vice president, G. S. Lambert, Phillips Petroleum Co.; secretary-treasurer, C. Schnurr, Mid-Continent Petroleum Corp. The retiring president is C. Max Bauer.

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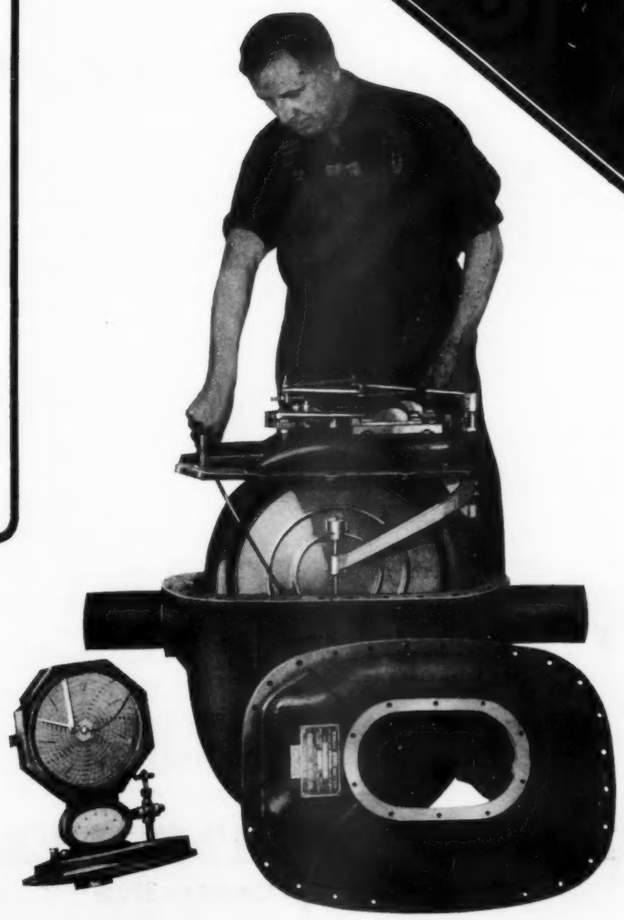

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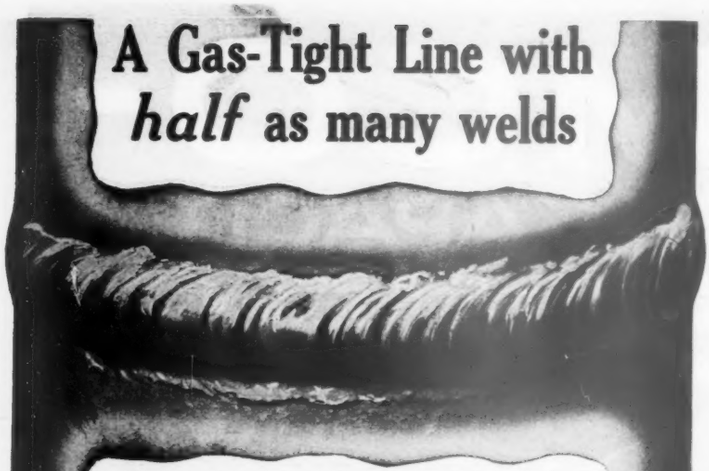

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PRODUCTION OFF IN MANY FIELDS EXCESS COMES FROM FEW AREAS

By James McIntyre

The dominating influence of the Seminole Field which was first brought into prominence by the reductions in the price of crude which began November 1, 1926, is becoming greater as the weeks pass.

The increase of production in that field has been more than the decrease in the production of 41 major fields since November 1 and while the net increase of production in the United States from November 1 to June 15 was 166,000 bbls. a day, the increase in the Seminole area alone was 279,019 bbls.

There were 57 fields in the United States producing 10,000 bbls. a day or more on November 1 and of these 41 fields have declined and were producing 262,995 bbls. less on June 15 than on November 1 of last year.

Sixteen major fields showed an increase aggregating 474,780 bbls. Of this latter amount Seminole contributed 279,019 bbls. and the other 15 fields 195,761 bbls. The scores and scores of fields outside the majors showed only a 45,785-bbl. decrease partly because of the discovery and partial development of new fields of flush production which have not yet reached major class, but which lessened the decline in production of the miscellaneous areas.

On November 1 Seminole produced 99,350 bbls. On June 15 it produced 378,519 bbls. Three days later new wells had brought it up to 394,206 bbls. and all previous estimates of what Seminole may produce as a peak were revised. A 10,000-bbl. well by the Empire Gas & Fuel Co. on top of other new production, and a half mile from any other producing well opened up possibilities that put a quietus on Seminole prophecies for the present.

The Crane-Upton County Field in West Texas increased from 16,100 bbls. to 64,000 bbls. Pecos County, Texas which was not credited with production on November 1 was making 13,600 bbls., pinched in, on June 15 and Seal Beach, which produced 3,300 bbls. on November 1 made 65,000 bbls. on June 15. These were the greatest gains outside of that made by the Seminole Field.

In the longer list of fields that show a decline can be found such prominent areas as Hutchinson County, the queen of Panhandle fields, and Spindletop deep sand, Smackover, Nigger Creek, Big Lake and other comparatively new fields, together with older fields that are still prominent like Burbank, Tonkawa, Garber, Salt Creek, Sunburst, Luling and Urania.

Decreased Production in 41 Major Fields

	Prod. June 15, 1927 Bbls.	Prod. Nov. 1, 1926 Bbls.
Teeter-Pixley, Kans.	11,225	16,000
Seely, Kans.	10,980	14,500
Burbank, Okla.	45,600	48,650
Braman, Okla.	8,500	29,000
Bristow-Slick, Okla.	26,746	27,100
Healdton, Okla.	14,450	14,750
Wewoka, Okla.	18,600	26,100
Cromwell, Okla.	12,900	14,860
Cushing-Shamrock, Okla.	19,400	19,800
Tonkawa, Okla.	21,400	35,000
Garber, Okla.	14,175	23,750
Hewitt, Okla.	10,000	10,925
Burkburnett, Tex.	13,200	13,900
Electra, Tex.	14,785	18,500
Hutchinson Co., Tex.	99,000	137,000
Spindletop, Tex.	58,600	86,800
Mirando, Tex.	14,000	16,250
Archer County, Tex.	29,000	33,600
Wilbarger Co., Tex.	13,030	14,200
Reagan Co., Tex.	26,340	30,5
Nigger Creek, Tex.	2,700	14,6
Powell, Tex.	17,200	23,0
Mexia, Tex.	10,750	11,2
Hull, Tex.	16,800	21,5
Luling, Tex.	16,450	21,2
Smackover, Ark.	98,500	130,0
Urania, La.	8,610	15,4
Caddo, La.	14,500	15,5
Salt Creek, Wyo.	42,900	47,0
Sunburst, Mont.	11,100	17,8
Midway-Sunset, Calif.	92,000	94,0
Elk Hills, Calif.	28,000	34,0
Coyote, Calif.	14,300	16,0
Santa Fe Springs, Calif.	42,000	47,7
Montebello, Calif.	16,000	17,0
Long Beach, Calif.	94,000	85,0
Torrance, Calif.	23,500	27,0
Dominguez, Calif.	16,000	21,5
Rosecrans, Calif.	10,500	14,1
Inglewood, Calif.	36,000	40,0
Fullerton, Calif.	22,200	23,4
Total	1,116,040	1,379,0
Decrease	262,995	

Increased Production in 16 Major Fields

	Prod. June 15, 1927 Bbls.	Prod. Nov. 1 1926 Bbls.
Sumner Co., Kans.	20,061	11,0
Seminole, Okla.	378,519	99,5
Sholom Alechem, Okla.	16,000	8,5
Montague Co., Tex.	12,470	9,0
Brown Co., Tex.	25,200	12,5
Young Co., Tex.	12,730	7,5
Upton-Crane Cos., Tex.	64,000	16,1
Carson Co., Tex.	11,900	3,2
Pecos County, Tex.	13,600	...
Bradford-Allegany, Pa.-N. Y.	17,500	17,1
Kern River, Calif.	13,800	12,3
Ventura-Newhall,* Calif.	71,000	59,8
Richfield, Calif.	21,200	17,0
Huntington Beach, Calif.	75,000	68,0
Seal Beach, Calif.	65,000	3,3
Coalinga, Calif.	20,200	18,5
Total	838,180	363,4
Increase	474,780	

*Includes Ventura Avenue.

SUMMARY OF PRODUCTION CHANGES

	Prod. June 15, 1927 Bbls.	Prod. Nov. 1, 1926 Bbls.	Increase	Decrease
One major field (Seminole)	378,519	99,350	279,019	.....
Fifteen major fields	459,661	263,900	195,761	.....
Forty-one major fields	1,116,040	1,379,000	.....	262,995
All other fields	554,280	600,065	.....	45,785
Totals	2,508,500	2,342,500	474,780	308,780
Total increase			166,000	

GULF BUILDS TANKS AT LUFKIN STATION

HOUSTON, Tex., June 25.—The Gulf Pipe Line Co. is erecting six 80,000-bbl. tanks at Lufkin Station, Tex., where the lines from Oklahoma and North Central Texas, East Central Texas, Panhandle and North Louisiana and Arkansas converge. The company has seven lines from Lufkin to the Gulf company's refinery at Port Arthur, Tex. The additional tankage is necessary to keep the various grades of crude handled by the lines separate.

The seriousness of the flood situation in central and southern Louisiana is reflected in the large decrease in the tanker shipments of the Standard Oil Co. of Louisiana. The consignments of refined and crude during May were only 754,100 bbls., compared with 2,278,836 bbls. during April and 2,303,551 bbls. during March. The record for January was 3,426,198 bbls. The situation is clearing, however, and it is expected that tanker shipments from the big Baton Rouge refinery will be nearly normal in 30 to 40 days.

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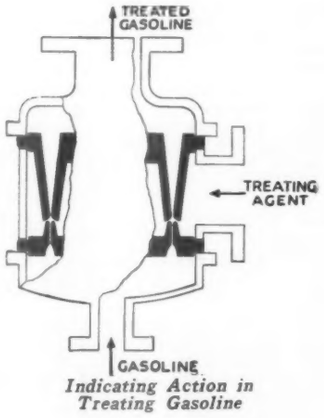

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The MASTER MIXER HEAD gives continuous operation instead of tedious batch treatment, practically eliminates evaporation loss, requires less labor, consumes a smaller amount of treating agent, occupies little space and requires less time to handle a given volume. Actual experience of leading refiners in California and the Mid-Continent Field show that the MASTER MIXER HEAD always reduces former treating costs from 20% to 80%.

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The operation of the MASTER MIXER HEAD in treating gasoline is as follows: Gasoline is pumped into receiving chamber of Head, whence it passes through especially designed jets at high velocity, into a zone containing the treating agent. By siphonic effect, the treating agent is drawn with the gasoline, through constricted openings above each jet, into the turbulence chamber. This process causes a most intimate contact—practically a temporary atomic union—between the gasoline and the treating agent.

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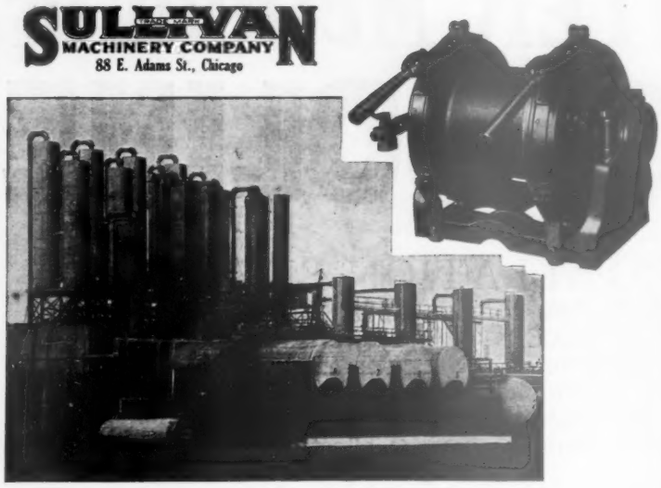

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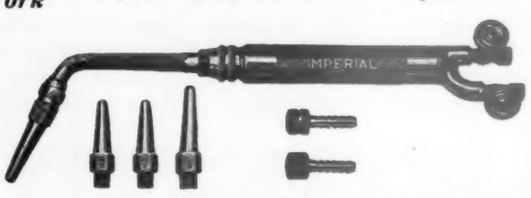

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STEEL TANKS REPLACING EARTHEN STORAGE IN GULF COAST FIELDS

HOUSTON, Tex., June 25.—Earthen reservoirs for the storage of crude in the Gulf Coast division are gradually being abandoned to be replaced with steel tanks. The Texas Company is erecting eight 55's in the Humble Pool, where earthen storage has been in use for 22 years. The old earthen reservoirs at Spindletop, which had been in use since the pool was discovered back in 1901, have been abandoned.

Coastal crude in earthen tanks May 1 last approximated 4,976,000 bbls., while one year ago the amount stored in these earthen reservoirs totaled 9,000,000 bbls., which will give some idea of the rapidity with which changes are being made.

The only pools in which earthen storage is in use at present are Damon Mound, Sour Lake, West Columbia, with around 500,000 bbls. in such tanks at Orange and Goose Creek. The Texas Company still has around 3,000,000 bbls. in earthen tanks; the Sinclair Oil & Gas Co., 1,000,000 bbls.; Gulf Production Co., 150,000 bbls., and Humble Oil & Refining Co., 150,000 bbls.

The reservoirs abandoned were in bad shape and it was found to be more economical to replace them with steel.

The policy of excavating these reservoirs originated during the early days of the Gulf Coast region. It was the quickest method of taking care of the crude from the big wells that marked those days. It required a long time to secure and erect iron tanks from the north in those pioneer days. The crude was classed as a fuel proposition, with a value ranging from 10 cents to 50 cents per barrel. The first reservoirs had capacities from 500,000 to 1,000,000 bbls. They were uncovered, and the loss from evaporation was very heavy. Later the companies covered these reservoirs, or "lakes," of crude with boards, thus reducing the evaporation loss. Several of these immense reservoirs at Spindletop, Sour Lake and Humble caught fire. Such fires were among the most spectacular in the history of the industry, burning for a week or longer.

As the value of the crude increased, the companies found it expedient to erect steel storage tanks, and during the past three years less and less crude has been placed in the old earthen bottoms. The Yount Lee Oil Co. erected scores of steel containers of 55,000 bbls. and 80,000 bbls. to take care of its production from the deep sand section at Spindletop. The pipe line companies did the same.

The South Liberty Pool was the last to witness the excavation of earthen tanks in anticipation of large production, but the pool failed to come up to expectations, and the earthen storage was never used.

It is probable the spectacle of dozens of mule teams, with singing negro drivers and laborers, exacavating for an earthen reservoir with a capacity of 500,000 bbls., will never again be witnessed in the Gulf Coast region. Instead, one finds the familiar "tankie," with the roaring pneumatic riveter.

SOUTHWEST TEXAS RUNS FOR THE MONTH OF MAY

SAN ANTONIO, Tex., June 25.—Pipe line runs from the fields of southwest Texas for the month of May, now available, indicate very little change in production from the month before and with a total daily average of 33,441 bbls. as compared with 32,830 for the month of April, there is shown a gain of 611 bbls. daily average. However, this is due to the natural fluctuation from month to month. There happened to be more wells off production during April due to cleaning out. There is a little new drilling in some fields but very little. The figures are more of an indication to the steady settled production of this district, the production curve being almost a straight horizontal line. The close of the year will see the production from this district averaging very little different from the figures for May.

Comparison of the fields as between April and May and showing the daily average is as follows:

	Dly. Av. Bbls. April	May
Luling	17,279	17,423
Mirando	9,701	10,148
Lytton Springs	2,175	2,085
Somerset	2,100	2,132
Rockdale	1,300	1,360
Southton	175	184
Calliham	100	109
Total	32,830	33,441

Total production of the principal fields from their discovery down to June 1 is as follows:

	Bbls.
Luling	31,427,399
Mirando	13,304,225
Lytton Springs	4,892,701
Somerset	5,956,088

Daily average production of the fields of southwest Texas for the first five months of 1927 by months is as follows:

Month—	Luling	Mirando	Lytton Spgs.	Somerset
January	18,692	11,968	2,635	2,233
February	18,226	11,102	2,400	2,121
March	17,551	10,342	2,265	2,108
April	17,279	9,711	2,175	2,100
May	17,423	10,148	2,085	2,132

Of the Mirando production 125 bbls. a day is high gravity oil from 14 wells. The remainder is the regular Mirando crude.

Reports from the Oil and Gas Division of the Texas Railroad Commission show that there is a decided dropping off in the number of operations in the state. Total filings which include notices of intention to drill, plug, shoot, completions and the like were 2,955 in January and dropped to 2,199 in May and notices of intention to drill dropped even more decidedly from 1,109 in January to 700 in May. July, 1926, there was a total of 1,389 notices of intention to drill and the decrease has been more or less gradual since that time.

Records for the first five months of 1927 as shown by reports from the Railroad Commission are as follows:

Month	To Drill	Completions Producers	Gassers	Dry	Total Filings
Jan.	1,109	608	39	317	2,955
Feb.	1,080	525	36	280	2,716
March	977	612	29	447	3,216
April	815	616	37	358	2,833
May	700	419	18	325	2,199

MAGNOLIA AND SOUTHERN PLAN NEW PIPE LINES

NEW YORK, June 25.—Magnolia Petroleum Co. is understood to be considering seriously construction of a pipe line into West Texas. The company has developed considerable production in Mitchell and Crane Counties, and the McMan Oil & Gas Co., in which Magnolia is interested has entered the Pecos County situation by purchasing close-in acreage in the Yates Pool.

Southern Pipe Line Co., a subsidiary of Pan American, is expected to place orders for pipe for a line from Winkler County to the Gulf, a distance of 500 miles, within a few weeks.

COMMISSION ASKS BIDS ON OKLAHOMA LEASES

The commissioners of the Land Office of the State of Oklahoma will receive sealed bids until 2 p. m. July 12, for oil and gas leases on school and State lands (160 acres each) as follows:

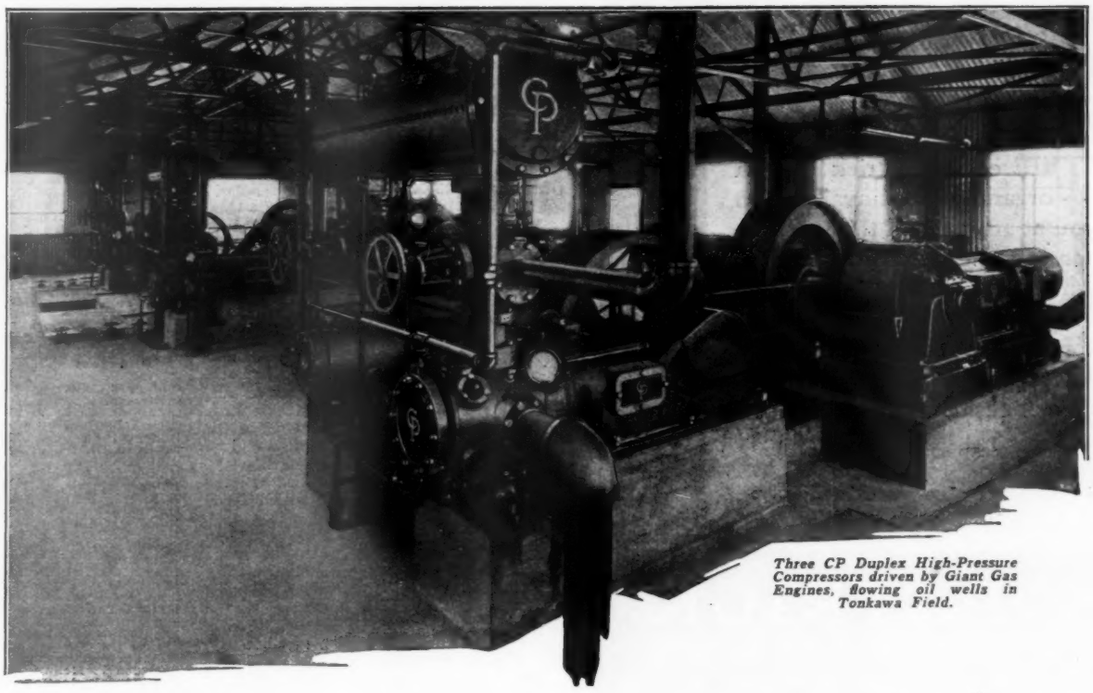
Comanche County—SE Sec. 13-3n-10w; SW Sec. 13-3n-10w.

The commissioners will receive sealed bids until 2 p. m. on July 19 for oil and gas leases as follows:

Kiowa County—NW Sec. 25-7n-16w.

HONDURAS OIL SURVEY

It is stated that a survey party will soon take up the examination of land covered by a recent oil concession in the northwestern departments. The concession calls for a pipe line to be laid from the field to the Bay of Fonseca.



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In All Fields

West Texas Stocks At New High Figure During Month of May

West Texas stocks increased 986,317 bbls. to a new high figure of 3,080,330 bbls. during the month of May in spite of a gain of 631,713 bbls. in pipe line runs, according to the monthly report which has just been compiled.

Production of the district, which includes Jones County, was 3,574,679 bbls. during May, compared with 2,965,598 bbls. during April, and pipe line runs during May were 3,441,049 bbls.

Outside of the Big Lake Field in Reagan County, where the Big Lake Co. produced nearly 600,000 bbls. during the month, the concern with the largest production in the district was the Eastland Oil Co. of Fort Worth with 257,724 bbls. Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co. together had 392,169 bbls. in the Yates Pool of Pecos County but this amount is divided 50-50 between the two companies.

Counting the Big Lake Oil Co. and the Mid-Kansas and Transcontinental concerns which individually came within a few barrels of the 200,000-bbl. mark, there were seven companies whose output reached this high figure during May. In addition to those named, Humble Oil & Refining Co. was numerically third with 253,997 bbls., Gulf Production Co. came fourth with 242,948 bbls., and the Texon Oil & Land Co. fifth with 215,056 bbls.

Altogether, 12 companies produced more than 100,000 bbls. each, the others being Marland Oil Co. with 177,956 bbls., Tidal Oil Co. with 157,199 bbls., Roxana Petroleum Corp. with 120,014 bbls., and Simms Oil Co. and Atlantic Oil Producing Co. with 213,275 bbls. together.

The leading West Texas field during May was the Church-Fields Pool of Crane County, which yielded 1,109,944 bbls. The Big Lake Field was second and the McCamey-Taylor area of Upton County third. The Yates Pool of Pecos County displaced the Gulf-McElroy Pool of Crane County for fourth place.

Outside of the Humble Pipe Line Co., the Gulf Production Co. led in amount of reserve stocks June 1, having 330,969 bbls. at its tank farm in Midland County and 59,591 bbls. in Crane County. Humble, of course, has for a long time held more stocks in this district than any other company, having 757,295 bbls. in Reagan County; 547,986 bbls. in Upton County; 30,440 bbls. in Crane County, and 25,954 bbls. in Crockett County. Reagan County Crude Oil Purchasing Co. was third with 283,457 bbls. in Reagan County, and the Marland Oil Co. had 257,842 bbls. in Upton County and 44,110 bbls. in Reagan County.

Pipe Line Runs by Counties

County—	Bbls.
Crane County	1,527,141
Crockett County	29,316
Ector County	0
Glasscock County	0
Howard County	68,413
Jones County	87,335
Loving County	0
Mitchell County	113,975
Pecos County	392,331
Reagan County	789,236
Scurry County	0
Upton County	519,025
Winkler County	29,000
Total	3,555,760
Increase over April	631,713

Pipe Line Runs by Companies

Company—	Bbls.
Col-Tex Ref. Co.	113,975
Gulf Pipe Line Co.	295,827
Humble Pipe Line Co.	1,048,777
Illinois Pipe Line Co.	392,331
Marland Pipe Line Co.	215,428
Phill-Tex Pipe Line Co.	58,142
Reagan County Pur. Co.	758,220
Roxana Pipe Line Co.	117,928
Southern Pipe Line Co.	440,411
Total	3,441,049

West Texas Production and Pipe Line Runs, May, 1927

Total Production by Companies

Company—	Bbls.
Amerada Pet. Corp.	10,973
Atlantic Oil Prod. Co.	9,975
Big Lake Oil Co.	596,926
M. D. Bryant	2,137
Church & Fields	7,735
Church & Weekley	36,821
Cosden, J. S., Inc.	421
Cromwell, Carl	4,431
Cromwell, Carl, et al	28,725
Dixie Oil Co.	89,213
Eastland Oil Co.	257,724
Gulf Prod. Co.	242,948
Humble O. & R. Co.	253,997
Independent Oil & Gas Co.	73,577
J. K. Hughes Dev. Co.	5,764
Magnolia Pet. Co.	64,013
Marland Oil Co.	177,956
McMan Oil & Gas Co.	5,286
Mid-Kansas O. & G. and Transcontinental	392,169
Prairie O. & G. Co.	47,291
Phillips Pet. Co.	32,844
Republic Prod. Co.	12,137
Roxana Pet. Corp.	120,014
Sun Oil Co.	10,151
Simms and Atlantic	213,275
Simms Oil Co.	3,696
Stidham & Thrasher	325
Snowden & McSweeney	8,196
Southern Crude O. P. Co.	22,297
Texas Pacific C. & O. Co.	77,642
Texon O. & L. Co.	215,056
The California Co.	79,913
The Texas Company	30,650
Tidal Oil Co.	157,199
Wentz Oil Corp.	5,826

Total Production by Fields

	Bbls.
Big Lake Field, Reagan County	811,227
Chalk Field, Howard County	93,538
Church-Fields Pool, Crane County	1,109,944
Connell Pool, Ector County	421
Hendricks Pool, Winkler County	34,843
McCamey-Taylor Field, Crane and Upton Counties	596,418
Gulf-McElroy Pool, Crane County	331,560
Noodle Creek Field, Jones County	58,969
Powell Pool, Crockett County	30,914
Settles Field, Glasscock County	910
Westbrook & Iatan, Mitchell County	112,784
Wheat Field, Loving County	465
Yates Pool, Pecos County	392,589
Total, May	3,574,679
Total, April	2,965,598
Increase	609,010

BIG CHIEFS AT STANDARDIZATION POWWOW

Frank N. Speller, metallurgical engineer, National Tube Co.; William G. Heltzel, Sinclair Pipe Line Co.; a little papoose; E. T. Wood, Wheeling Steel Corp.; F. Ray McGrew, president, Standard Pipe Line Co.; and C. R. Weidner, chief engineer, Prairie Pipe Line Co. When committee meetings were adjourned somewhat early one afternoon during the Third Semiannual Conference of the A.P.I. Standardization Committees at Colorado Springs, many took advantage of the opportunity to visit Pike's Peak. The above picture was taken on top of the peak, a snowstorm and strong wind making blankets a comfort.

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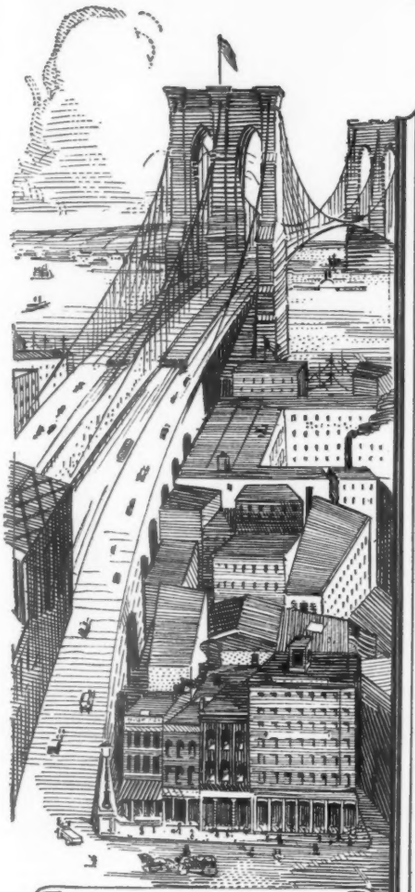

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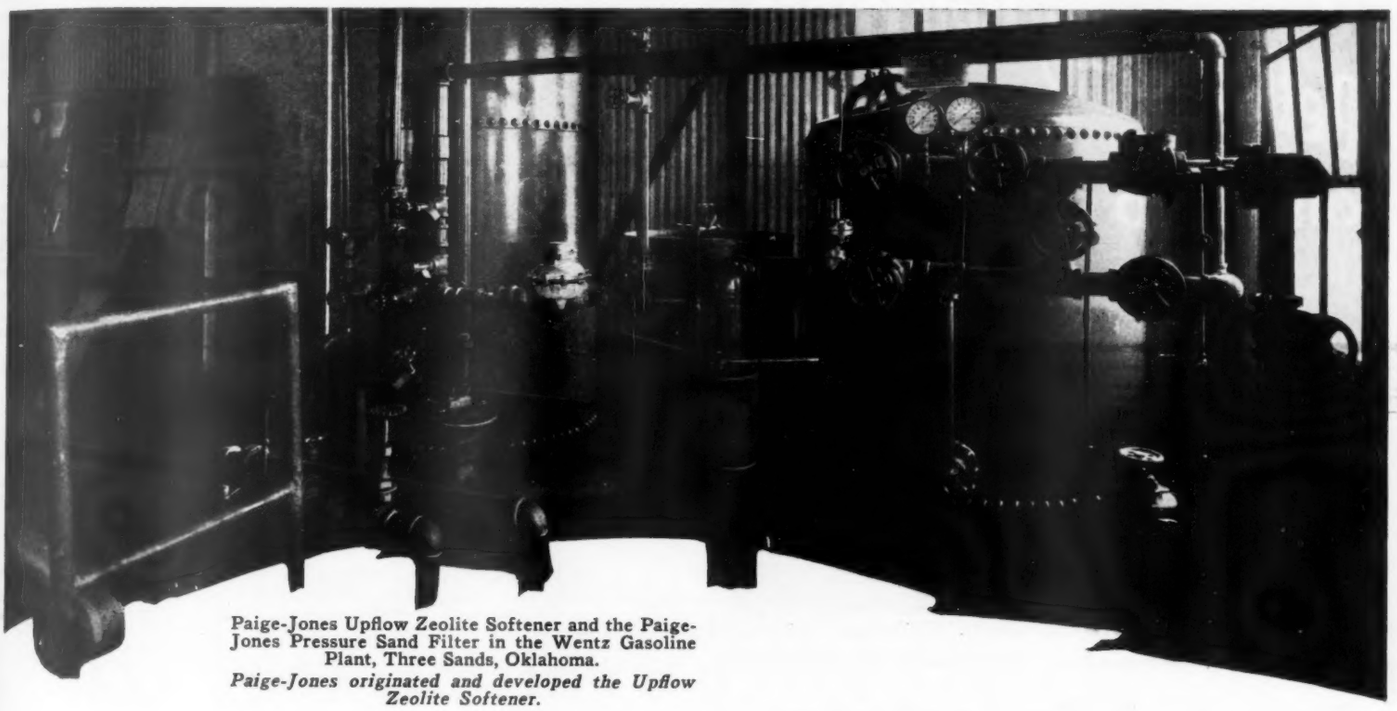
GROSS PRODUCTION IN MAY OF LEASES IN WEST TEXAS FIELDS

The following tables show the gross production in the month of May of all leases and companies in the various fields of West Texas:

WEST TEXAS
Production Report for May, 1927
Crane County

Company and Lease—	Wells	Total Bbls.
Church & Fields:		
University	1	4,605
University-Doull	1	3,130
Church & Weekly:		
University	1	36,821
Cromwell:		
University	1	28,725
Eastland Oil Co.:		
University	4	253,051
Gulf Production Co.:		
Crier-McElroy	6	70,059
Crier-McElroy-A	4	61,669
J. T. McElroy	8	196,338
J. T. McElroy-B	1	3,484
State-Lasseter	1 to 7	87,387
Gulf total		418,947
Humble Oil & Ref. Co.:		
University	9	243,176
Independent:		
Bryant-Moore	1	292
University-A	1 & 2	37,866
Independent total		38,158
McMan Oil & Gas Co.:		
Hughes	1 & 2	3,445
Magnolia, Church et al:		
University	4	2,837
Magnolia Petroleum Co.:		
Hardwick-University	1	9,500
O'Keefe-University	5	8,481
Lasseter-University	2	2,396
Magnolia total		23,214
Marland Oil Co.:		
Benton Ld.	1	Off
Cowden-A	3	2,755
Cowden-B	1	3,433
Durham	2	365
Hughes-B	1	.....
Hughes-C	3	1,819
Hughes-D	6	28,470
Hughes-Gibbs	2	978
Keith-Hughes	3	6,319
Gibbs	2	4,895
Shirley	4	12,341
Shirley-A	1	525
Marland total		51,170
Prairie Oil & Gas Co.:		
University-A	6	11,272
Lasseter-University	1	7,951
Prairie total		19,223
Simms and Atlantic:		
University-A	6	147,455
University-B	1	2,306
University-C	2	32,717
University-D	1	30,797
Simms and Atlantic total		213,275
Stidham & Thrasher:		
University	1	325
Tidal Oil Co.:		
University-B	2	2,822
University-C	1	799
University-E	1	1,956
University-F	4	151,622
Tidal total		157,199
The Texas Company:		
King (see Upton County.)		
University	1	1,947
Crane County grand total		1,490,824
Crockett County		
Carl Cromwell:		
Powell	4	4,431
Gulf Prod. Co.:		
Powell-A	1	Off
Powell	2 to 5	1,391
Powell-D	1	2,717
Gulf total		4,108
Hughes:		
Powell-A	3	4,431
Powell-B	1	1,337
Hughes total		5,768
Humble-Marland:		
Powell	10	8,418
(No. 4 abandoned.)		
Powell-B	1	877
Humble-Marland total		9,295
Humble O. & R. Co.:		
Sarg	1	252
Republic:		
Powell	2	6,460
Roxana:		
Powell	1	600
Crockett Co. grand total		30,914
Ector County		
Cosden:		
Connell	1-A	421
Ector County grand total		421
Glasscock County		
Texon-Marland:		
Settles	1	910
Glasscock Co. grand total		910
Howard County		
Magnolia Petroleum Co:		
O'Daniels	1	150
Comet Petroleum Co.:		
Clay	1	280
Dixie Oil Co.:		
Clay	1	286
Gulf Production Co.:		
Chalk	1	Off
Chalk	2	975
Humble:		
Douthitt	1 & 2	1,519
Lockhart:		
Chalk	3	2,905
Chalk-A	3	2,915
Scott	1	400
Lockhart total		6,220
Magnolia Petroleum Co.:		
G. O. Chalk	4	4,428
Mary Chalk	4	5,717
Owen Chalk	7	7,099
Hyman Chalk	2	1,086
Kelly Chalk	2	1,332
Sloan Chalk	1	1,367
Sarah Hyman 2	2	1,589
Magnolia total		22,513
Marland Oil Co.:		
Clay	5	8,676
Clay-A	5	10,116
Clay-B	1	866
Chalk	10	11,114
Chalk-A	8	9,867
Chalk-B	1	1,641
Chalk-C	1	1,361
Chalk-D	1	1,435
Chalk-E	1	5,190
Marland total		49,545
Merrick & Bristow:		
Hooks	2	2,885
Pure Oil Co.:		
Chalk	2	3,200
Reeves & Apperman:		
Clay	1 & 2	5,886
Howard Co. grand total.		93,535
Jones County		
Atlantic:		
Howell	1	852
Marland Oil Co.:		
Mason	3	14,740
Mid-West:		
Thornton	1 to 4	10,533
Phillips Petroleum Co.:		
Beasley	1	2,877
Mason	1	5,146
Tessie	3	14,170
Winters	2	10,651
Phillips total		32,844
Jones Co. grand total		58,969
Loving County		
Lockhart:		
Allen 1	1	465
P. V. Petroleum Co.:		
Wheat	1	....
Loving Co. grand total		465
Pecos County		
Mid-Kansas-Transcontinental:		
Smith-Taylor 1	1	4,238
Yates-A	1 to 3	141,462
Yates-B	1	104,540
Yates-C	1	58,645
Yates-A No. 4	..	47,294
Mid-Kansas -Transcontinental total		392,169
Texon O. & L. Co.:		
Yates	1	420
Pecos Co. grand total		392,589
Reagan County		
Big Lake Oil Co.:		
University	108	596,926
Texon O. & L. Co.:		
University Gr. 1	76	214,401
Reagan Co. grand total		811,327
Scurry County		
Northwest Oil Co.:		
Newman	1	240
Moore	2	570
Wellborn	2	600
Stinson	1	300
Scurry County totals		1,710
Upton County		
Amerada Petroleum Co.:		
Hughes	6	10,972
Atlantic:		
Sherk	1	1,122
Bryant et al:		
Baker 2	2	2,137
Dixie Oil Co.:		
Burleson	21	88,945
Hughes	10	9,450
Dixie Upton Co. total		98,395
Gulf Production Co.:		
Baker	1	161
Baker-B	2	1,682
Estep	2	8,237
Hughes	4	3,722
Lane-C	1	5,527
Lane	1	1,900
Sherk	1	1,796
Gulf total		23,026
Humble O. & R. Co.:		
Burleson	4	1,278
Ricker	4	3,128
Humble total		4,406
Independent O. & G.:		
Burleson	7	2,121
Taylor	12	12,429
Wooley	9	20,211
Wooley	1 & 3	....
Independent total		37,761
McMann:		
Baker-A	1	1,678
McMann total		1,841
Marland Oil Co.:		
Baker-A	1	685
Burleson	30	27,776
Burleson-A	1	246
Burleson	3	....
Burleson-B	1	112
Total		28,134
Estep	8	24,290
Powell	4	8,945
Sanger	20	15,872
Marland total		77,241
Prairie:		
Lane	4	14,832
Allie Lane	1	13,236
Prairie total		28,068
Republic:		
Baker	6	5,677
Roxana:		
Bowen	25	102,898
Estep	3	2,567
Hughes	9	13,949
Roxana total		119,414
Simms:		
Shirley	3	3,696
Snowden-McSweeney:		
Hughes	1	8,196

Circulate *Softened* Water and Cut Down Costs



Paige-Jones Upflow Zeolite Softener and the Paige-Jones Pressure Sand Filter in the Wentz Gasoline Plant, Three Sands, Oklahoma.
Paige-Jones originated and developed the Upflow Zeolite Softener.

SOFTENED water for condenser coils keeps the coils clean and increases cooling efficiency.

Softened water in cooling jackets protects the engine. No scale will form—cylinder heads will not crack.

For these purposes alone, it would pay refineries, gasoline plants and pumping stations to install water softeners.

Those plants—and there are many—that are using Paige-Jones Upflow Zeolite Softeners are reporting lowered operating and maintenance costs.

A Paige-Jones representative is near you. He will be glad to outline a plan for softening the water used in your condensers and engines.

The Gilmore Oil Company writes:

"Before installing the Softener (Paige-Jones), our cost for condenser cleaning ran approximately $1,000.00 a year, and this has been entirely eliminated."

The Shaffer Oil and Refining Company writes:

"Before we installed the Softener (Paige-Jones), we found it necessary to shut our engines down approximately every ten days and remove the scale from the jackets . . . . We have practically eliminated all cracked cylinder heads and it is very uncommon to find scale in our engine jackets."

PAIGE & JONES CHEMICAL CO., Inc.
General Sales Office, Technical Dept. & Works, HAMMOND, INDIANA
Executive Office: 461 FOURTH AVE., NEW YORK.
Offices in Principal Cities

PAIGE-JONES WATER SOFTENING

ZEOLITE AND LIME SODA SOFTENERS · PRESSURE SAND FILTERS
BOILER FEED WATER TREATMENTS · HOUSEHOLD WATER SOFTENERS

Petrol Belt / Petrol Belt Clamp / Petrol Rotary Belt Punch for BEST OIL FIELD BELT SERVICE

In the Mid-Continent Fields at all branches and stores of WILLIAMSPORT WIRE ROPE CO.

In California at CHRISTIE-FREY COMPANY Los Angeles, Cal.

In the Eastern Fields at JARECKI MFG. CO.

"Petrol Belting & Petrol Clamps Make the Ideal Combination"

Manufacturers

Victor Balata and Textile Belting Co.

Main Sales Office: 38 Murray St., New York City

Factories: Easton, Pa.

Sun Oil Co.:		
Baker	2	2,962
Burleson	7	7,189
Sun total		10,151
T. P. C. & O.:		
Lane-A	7	70,986
Lane-B	1	1,193
Sherk	5	4,568
T. P. C. & O. total		77,643
The Texas Company:		
King	21	26,845
Burleson	4	1,672
Union L. F.	1	186
The Texas Company total		28,703
Texon O. & L. Co.:		
Sherk	1	235
Wentz:		
Sherk	3	5,826
Upton Co. grand total		541,511

Winkler County

Gulf Prod. Co.:		
Hendricks	1	11,878
Independent:		
Hendricks	1	669
Southern Crude:		
Hendricks 1-A-1		10,346
Hendricks 1-C-1		11,151
Hendricks 1-C-2		806
Southern Crude total		22,297
Winkler Co. grand total		34,842

STEEL STORAGE REPORT FOR WEST TEXAS—MAY, 1927

Company and Farm—	Tanks No. & Size	Capacity	Stock	Room
Crane County:				
Gulf Pipe Line Co., McElroy	2—80,000	160,000	59,591	100,409
Humble Pipe Line Co., University	4—55,000	221,708	30,440	171,268
Simms Pipe Line Co., University	2—55,000	110,000	41,303	68,697
Crockett County:				
Humble Pipe Line Co., Powell	1—55,000	53,739	25,954	27,785
Jones County:				
Phil-Tex, Noodle Creek	1—55,000	53,000	15,789	35,211
Midland County:				
Gulf Pipe Line Co., fee	4—55,000 5—80,000	300,000 620,000	330,969	289,031
Mitchell County:				
Magnolia Pipe Line Co., Westbrook	4—55,000	220,000	193,522	26,478
Pecos County:				
Illinois Pipe Line Co., Yates	4—55,000	220,000	142,100	77,900
Reagan County:				
Big Lake Oil Co., University	12—55,000 12— 1,000 2—10,000	692,000	183,678	508,322
Humble Pipe Line Co., Kemper	5—64,000	310,000	144,711	165,289
Humble Pipe Line Co., Leased	10—80,000	800,000	612,584	187,416
Reagan C. P. Co., Kemper	4—80,000	320,000	283,467	36,543
Texon O. & L. Co., University	9—55,000	495,000	*	495,000
Marland Pipe Line Co., Leased	2—80,000	160,000	44,110	115,890
Upton County:				
Humble Pipe Line Co., Burleson	13—55,000	662,117	547,986	114,121
Marland Pipe Line Co., Burleson	9—55,000	480,857	257,842	223,015
Texas P. Line Co., Union L. C.	1—37,500	37,500	4,706	32,794
Southern Pacific Pipe Co., Burleson	1—64,000 2—55,000	170,000	76,740	193,260
Winkler County:				
Southern Pipe Line Co., Hendricks	2—55,000 2—10,000 1— 5,000	135,000	64,848	70,152
Grand total		6,330,921	3,080,230	

SUMMARY OF FRY POOL, BROWN COUNTY

Company and Lease—	No. of Acres	Oil Wells	Dry Holes	Prod'n 5-31-27
Amerada Petroleum Corp., M. E. Fry	80	0	3	0
*Amerada Petroleum Corp., F. H. Fry	75	25	0	728
Barbara Oil Co., J. A. Willis and A. E. Metts	198	12	1	236
Triangle Oil Co. (Bowers), C. L. Eads	80	5	0	63
Charter Oil Co., J. J. Andrews	40	2	2	30
Forest Oil Co., M. L. Smith	80	2	0	37
Gibson Oil Co., W. G. White	119	11	1	100
Gibson Oil Co., J. W. Shore	93	3	0	25
†J. K. Hughes Co., J. W. Shore	80	16	0	5,646
Humble Oil & Refining Co., M. E. Fry	50	5	0	8
Humble Oil & Refining Co., J. M. Fry	25	4	1	22
Humble Oil & Refining Co., A. E. Metts	25	2	0	1
Lester and others, M. E. Fry	50	18	0	770
‡Magnolia Petroleum Co., M. E. Fry	80	7	2	27
Mitchem, J. M. Perry	15	1	0	1
C. O. Moore, R. L. Brunson	40	2	1	30
Quinn and others, W. N. Pugh	65	1	2	8
Root and others, W. N. Pugh	15	2	2	30
Roxana Petroleum Corp., J. E. Whiteside	79	1	2	30
Rex-Tex-Py-Tex, J. H. Fry	115	14	1	540
Selby, H. J. Ellis	135	1	0	30
§Sinclair, J. H. Fry	75	23	0	1,047
Sinclair, J. W. Shore	80	2	0	747
Shoup and others, J. Byler	102	5	3	140
E. L. Smith, J. W. Newton	485	2	0	10
Tower & McKenna, J. W. Shore	70	14	0	3,855
Wentz, J. W. Shore	250	11	3	1,512
The Texas Company, F. Lowe	320	57	0	4,530
The Texas Company, W. N. Pugh	40	11	0	129
The Texas Company, H. Byler	56	3	0	81
The Texas Company, J. Byler	44	1	0	51
Total (bbls.)		263	24	20,430

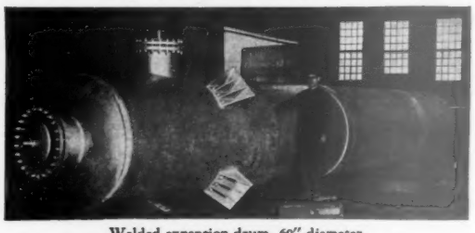
*Nos. 7, 13, 15, 18, 19 and 20 on air. †No. 1 on air. ‡85 bbls. water. §16 wells on air.

Casinghead Plants in the County

Production by Casinghead Plants in the County, April, 1927

Company—	No. Plants	Prod'n	Company—	Po. Plants	Prod'n
Amerada, (gals.)	2	624,061	Humble (gals.)	1	363,567
Phillips (gals.)	1	108,437	Olympia	1	Shut down

Years of Experience



Welded expansion drum, 60" diameter. Tested to 300 lb. hydrostatic pressure.

YEARS of experience in serving power plants on small jobs and large, make it possible for *Power Piping* to promise speedy, dependable service at the lowest possible cost on any work involving design, fabrication or erection.

POWER PIPING CO. • PITTSBURGH

Flood Helped Boost Stocks in Arkansas And Louisiana Area

SHREVEPORT, La., June 25.—A total of 30,320,449 bbls. of crude was held in storage in the North Louisiana and Arkansas district on June 1, according to reports just compiled. This represented an increase of 2,972,644 bbls. over figures of May 1, when 27,347,805 bbls. were on hand.

This increase is due to some extent to the break in the Standard Pipe Line Co.'s main lines at Melville, La., a month ago which forced the backing up of approximately 80,000 bbls. of oil daily into North Louisiana storage. Before the washout of the lines this oil formerly had been shipped directly to the Standard Oil Co. of Louisiana's refinery at Baton Rouge.

Most of this oil was from Oklahoma but being run to storage reflected a gain in North Louisiana stocks alone amounting to 2,037,005 bbls. Although the line had not been reopened crude was being drawn from North Louisiana storage on June 1, being reverted through the company's line by way of Kenova and El Dorado to Grand Lake on the Mississippi where it is being transported by boat to the refinery.

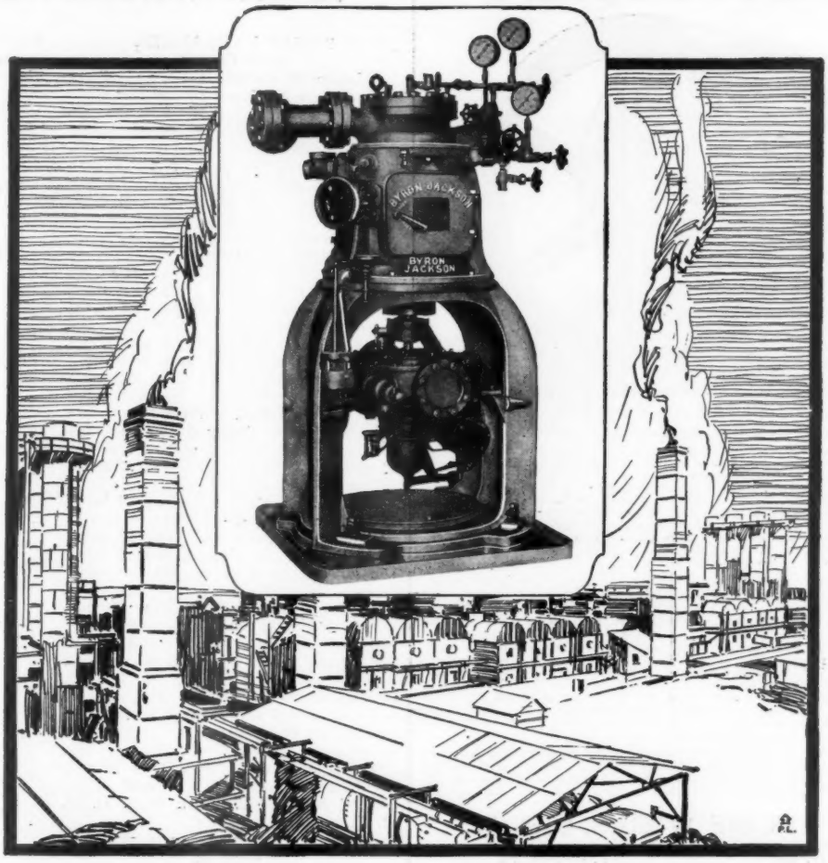
This line, which is the company's main carrier from the Smackover Field, also was shut down for several weeks. Flooding of the pump station at Grand Lake first forced suspension of crude runs through this line and when the station was in a position to operate again boats were not available for the transportation of oil, these being tied up in refugee service.

Storage in the Smackover Field on June 1 totaled 14,619,979 bbls. as against 13,897,060 bbls. May 1. Earthen storage there June 1 contained 7,870,125 bbls.

TURKISH PETROLEUM

Advices from Germany say the French group which holds 25 per cent of Turkish Petroleum Co. stock has sold 20 per cent to a Belgian group. The properties are in Mesopotamia and the British operators of the property have started development with two rotary drilling rigs. The American group has not yet come to final decision on participating.

Adopted by the World's Largest Refiners



Byron Jackson *Hot Oil Pump*

The Byron Jackson Hot Oil Pump owes its great success to the fact that it has solved the many problems that have confronted oil refiners ever since the advent of the cracking process.

Outstanding features of this highly specialized centrifugal pump are:

Insures safety of plant and operator.
Continuous, non-pulsating, uniform flow; *no surges.*
Ample clearance between moving and stationary parts; *no rubbing surfaces to wear or freeze.*
One simple pumping element; *no valves.*
Direct connected prime mover; *no gears.*
Vertical shaft; *no measurable radial bearing pressure.*
Balanced construction; *no reciprocating motion or mass acceleration.*
Steam turbine or electric drive; *no dependence on one source of power.*
Hot pipes overhead; *no exposure to burns.*
Double enclosed steam smothered stuffing box chamber; *no danger of fire.*

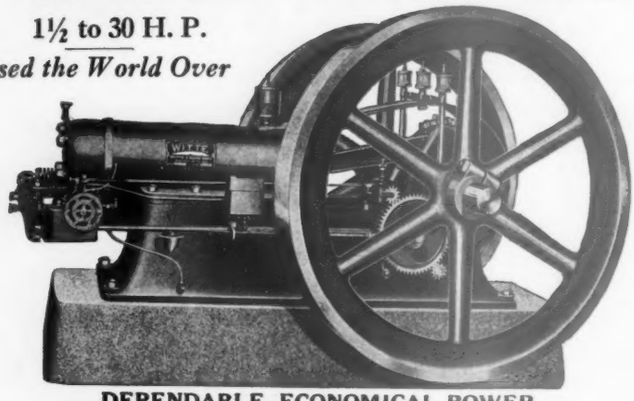
Many of the largest refiners of crude oil in the world have adopted the Byron Jackson Hot Oil Pump. *Ask for special literature.*

BYRON JACKSON
PUMP MANUFACTURING CO.
FACTORY AND MAIN OFFICE: BERKELEY, CAL.
BRANCHES: SAN FRANCISCO, LOS ANGELES, VISALIA, PORTLAND, OR. SALT LAKE CITY

WITTE ENGINES

1½ to 30 H. P.

Used the World Over



DEPENDABLE, ECONOMICAL POWER

For Oil Fields, Cotton Gins, Factories, Saw Mills, Etc.

The Witte Heavy Duty Engine is made only in the 20 and 30 H.P. sizes for heavy continuous work involving running for more than twenty-four hours at a time. Complete oiling system for every bearing so arranged that you need not shut down the oil. Geared Centrifugal Water Pump for circulating water and spraying it. Tank is in base securely supported a slight distance from the foundation. You will find this a real dependable and economical engine. Now, more than ever, the need for economical, dependable power, is felt by the producer who is faced with ever increasing labor costs. Witte Throttling Governor Engines answer this problem—with the Witte you get more engine power for less cost and less upkeep.

Throttling Governor—the original and leader of the Throttling Governor type. An even, steady speed with big surplus of power for heavy loads. The Witte Engine burns kerosene, gasoline, gas oil, distillate or gas, at a fuel cost of less than 2c an hour per H.P. Simple, trouble proof, and guaranteed for a life-time of hard work.

. Write for Free Book. Send today for my big, free catalog in colors. Tells all about the new Witte improvements and new sales terms. It's really a mechanical education to read this book, for I have written it after a life-time of practical experience. Write for it today, sure.

The Witte Engine comes completely equipped with Wico-Magneto speed and power regulator and Throttling Governor, square, protected tank and cast removable bearings. The Witte is regarded the world over as the STANDARD for real economy and life-long dependability.

No matter whether you plan to get an engine now or later—no matter whether you happen to have my old catalog—write me today, sure, for this big, new catalog and learn about all my new improvements and new terms. Do not think of buying any engine, sawing rig, or pumping outfit until you have got all these facts. Write today for free facts. No cost or obligation.

3 Hours Shipping Service

WITTE ENGINE WORKS, Dept. W

302-A Witte Bldg., Kansas City, Mo.

302-A Empire Bldg., Pittsburgh, Pa.

"Central" Oil Country Tubular Goods

Large gas companies, after using "Central" Pipe, have commented upon its uniform lengths, perfect roundness, and careful beveling. These sterling qualities in "Central" reduce construction costs by speeding up the field work and, in addition, insure a tight durable line. For complete satisfaction all around use "Central" Pipe on your next job.

CENTRAL TUBE COMPANY

General Offices—First National Bank Bldg.

PITTSBURGH

Representatives in the Oil Fields

Mid-Continent: Allen, Sprouli & Allen, Burk Burnett Bldg., Fort Worth, Texas
California: E. C. Saul, Monadnock Bldg., San Francisco, California.

DISTRIBUTORS: Taubman Supply Corporation, Tulsa, Oklahoma, and branches; Dunigan Tool & Supply Co., Breckenridge, Texas, and branches; Putnam Supply Company, Putnam, Texas, and branches; Louisiana Iron & Supply Co., Shreveport, La., and branches; Petroleum Equipment Co., Los Angeles, California, and branches; American Supply Co., Mexia, Texas; Standard Supply Co., Inc., Wichita Falls, Texas.

SKINNER Clamps stop leaks

Send for Catalog

M. B. SKINNER CO., 562 Washington Boulevard, CHICAGO

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Gray County

Atlantic Oil Producing Co. and others' No. 1 Combs & Worley-D, 330 feet south and west of NE cor. NW of Section 34, Block 3, I. & G. N. Survey. Gray County Oil Co.'s No. 1 A. Chapman, 330 feet north and 990 feet east of SW cor. of Section 70, Block 25, H. & G. N. Survey. Majestic Oil Co.'s No. 2 J. B. Bowers, 990 feet north and west of SE cor. NE of Section 93, Block 2-B, same survey. Pollard and others' No. 1 J. B. Bowers, 330 feet north and west of SE cor. of the E half of Section 119, Block 2-B, same survey. Prairie Oil & Gas Co. and others' No. 14 Combs & Worley, 985 feet north and 330 feet west of SE cor. of Section 57, Block 3, I. & G. N. Survey. Sullivan and others' No. 1 A. Chapman, 2,500 feet south and 330 feet west of NE cor. of E. N. Lynch Survey, No. 9. Sun Oil Co.'s No. 5 Worley & Reynolds, 990 feet south and 330 feet east of NW cor. of Section 83, Block 3, I. & G. N. Survey.

Hutchinson County

Amarillo Oil Co.'s No. 6 Lee Bivins-B, 1,315 feet north and 1,335 feet east of SW cor. of Section 90, Block 46, H. & T. C. Survey. Morrison & Locke's No. 1 H. E. Smith and others, 330 feet south and east of NW cor. NW of SE NE of Section 5, Block Y. Phillips & Heywood's No. 4 H. E. Smith and others, 990 feet north and 330 feet east of SW cor. of the W half of SE Section 14, Block Y. Ralph & Baker's No. 1 H. E. Smith and others, 330 feet south and 410 feet east of NW cor. of the E half of NW Section 10, Block Y.

Potter County

Amarillo Oil Co.'s No. 2 R. B. Masterson-J, 2,635 feet north and west of SE cor. of Section 69, Block O-18, D. P. R. R. Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

Atlantic Oil Producing Co.'s No. 4 L. F. Wilson-D, 150 feet south and 750 feet east of NW cor. of their 30-acre lease "D" out of D. L. & C. Survey, A-1,093. Continental Oil Co. and Perkins & Cullum's No. 4 L. F. Wilson, 490 feet north and 500 feet east of SW cor. SW SE of Lot 4, Section 114, A. T. N. C. L. Survey. Kruger & Staley's No. 4 J. H. Turbeville, 150 feet north and west of SE cor. NE of Robert Carson Survey, No. 146. Royal Petroleum Co.'s No. 8 L. F. Wilson, 150 feet north and 750 feet east of SW cor. of their 40-acre lease out of D. L. & C. Survey, A-1,093; No. 9, 150 feet north and 1,050 feet east of SW cor. of their 40-acre lease out of the same survey; No. 10, 450 feet north and 750 feet east of SW cor. of their 40-acre lease out of the same survey. The Texas Company and Harry Hines' No. 1 C. A. Mangold, 920 feet south and 475 feet west of NE cor. of Section 31, Mangold Subdivision. Abercrombie & Roxana Petroleum Corp.'s No. 1 Abercrombie & Taylor, 150 feet north and west of SE cor. of west 20 acres of north 40 acres of south 80 acres of Section 41, Club ranch.

Brewster County

McPhail & Kempter's No. 1 Brown, center of Section 43, Block WJC-8, T. C. R. R. Survey.

Callahan County

Southern Exploration Co.'s No. 1 J. B. Smart, 150 feet south and east of NW cor. NE SW of Section 44, Deaf and Dumb Asylum Land.

Cooke County

Camp-Hedrick & Oil Operators Trust Co.'s No. 7 M. J. Kleiss, 150 feet south and 200 feet west of NE cor. of north 28 acres of M. J. Kleiss' 115-acre tract out of J. W. Littleton Survey, A-586. Kewanee Oil & Gas Co.'s No. 1 T. Timmis, 150 feet south and west of the most easterly NE cor. of T. Timmis' 185-acre tract out of E. T. R. R. Survey No. 5, A-368. Magnolia Petroleum Co.'s No. 1 G. T. Andrews and others, 305 feet north and 150 feet west of SE cor. of G. T. Andrews' 790-acre tract out of Jonathan Clark Survey, A-194. Roxana Petroleum Corp.'s No. 1 H. L. Dennis, 150 feet south and east of NW cor. of T. J. Hutchinson Survey, A-484. Stroube & Stroube's No. 4 John Koelzer-A, 170 feet north and 150 feet west of SE cor. of their 10-acre lease "A" out of Section 13, Thomas Scott Survey, A-900. Sun Oil Co.'s No. 3 J. A. Dennis, 150 feet north and east of SW cor. of their 32-acre lease out of T. J. Moss Survey, A-736.

Crane County

Landreth Production Co.'s No. 8 State Land, 2,000 feet south and 1,650 feet west of SE cor. of Section 46, Block 30, University Land and located in Section 201, Block F, C. C. S. D. & R. G. N. G. Survey. Simms Oil Co. and Atlantic Oil Producing Co.'s No. 3 University Lands D, 990 feet north and 330 feet west of SE cor. of Section 46, Block 30, University Land; No. 4, 330 feet north and 990 feet west of SE cor. of Section 46, Block 30, University Land; Uo. 5, 330 feet north and 1,650 feet west of SE cor. of Section 46, Block 30, University Land.

Foard County

C. W. Clark and others' No. 1 C. L. Atkins, 150 feet north and east of SW cor. of Section 89, Block 44, H. & T. C. Survey.

Grayson County

C. A. Tucker and W. C. Everett's No. 1 D. D. Thorn and J. R. Handy, 1,950 feet north and 900 feet east of SW cor. of south 185 acres of Thorn & Handy's 1,063-acre tract out of Samuel Stewart Survey, A-1,069.

King County

Mathews & Tyrell's No. 1 F. Patton, 150 feet south and 380 feet east of NW cor. of Section 114, Block A, J. B. Rector Survey.

Mitchell County

The California Co.'s No. 8 W. R. Womack, 1,650 feet north and 2,310 feet west of SE cor. of Section 11, Block 28, Township 1-N, T. & P. Survey.

Montague County

Continental Oil Co.'s No. 22 J. W. Maddox-A, 800 feet south and 150 feet west of NE cor. of Lot 13, S. H. Arnold Survey, A-5; Humble Oil & Refining Co.'s No. 6 N. J. Howard and others, 750 feet south and 150 feet west of NE cor. of their 40-acre lease out of J. Chambliss Survey, A-123.

Palo Pinto County

Texas Pacific Coal & Oil Co.'s No. 153 J. N. Stewart, 1,350 feet north and 1,210 feet west of SE cor. of Section 71, Block 4, T. & P. Survey.

Reeves County

David R. Thompson's No. 1 A. A. Eddins, middle point of east line of Section 10, Block COL, Public School Land.

Shackelford County

Amerada Petroleum Corp.'s No. 4 W. Y. and R. A. Davis, 150 feet north and west of SE cor. of Section 29, Block 13, T. & P. Survey. George Callahan and others' No. 1 W. M. Broyles, 150 feet south and 450 feet west of NE cor. SW SE Section 14, Lunatic Asylum Land. A. J. Hughes and others' No. 1 W. J. Bradley, 150 feet south and east of NW cor. SW NW Section 12, Blind Asylum Land.

Stephens County

Mook-Texas Oil Co.'s No. 3 George Riddle and others, 550 feet south and 300 feet west of NE cor. of Section 46, Block 6, T. & P. Survey.

Taylor County

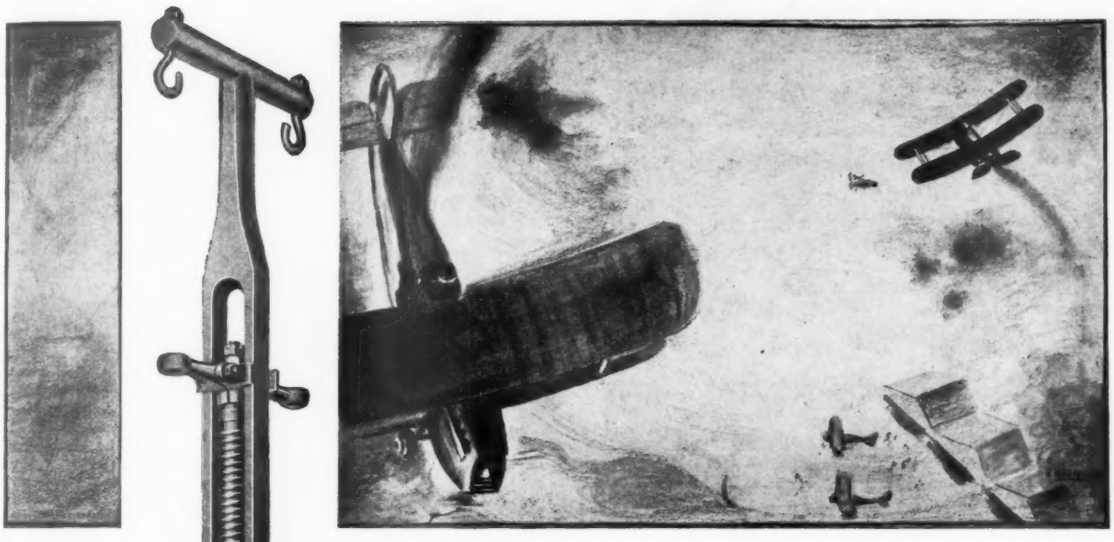
Gilbert & Johnson's No. 1 C. M. Brown, 660 feet north and east of SW cor. of SE Section 1, Block 6, T. & P. Survey.

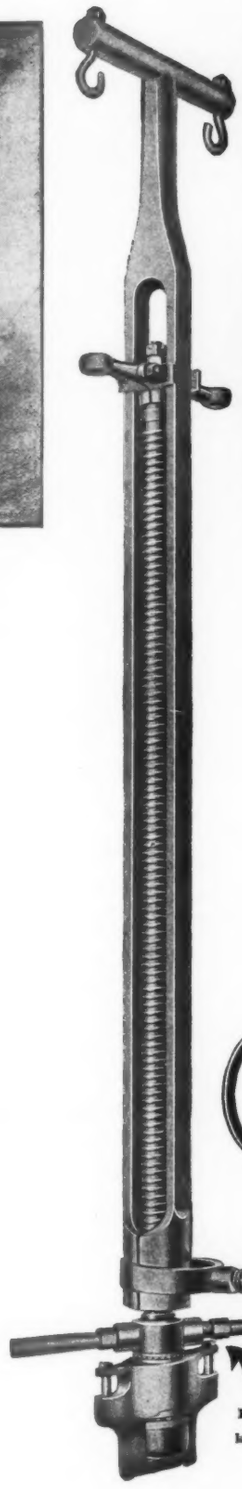
Throckmorton County

H. L. Parker and others' No. 2 J. A. Mathews, 100 feet north and 750 feet east of SW cor. of Section 3, Block X, A. B. & M. Survey.

Upton County

Dixie Oil Co.'s No. 26 A. S. Burleson, 330 feet south and 3,630 feet east of SW cor. of Section 6, G. C. & S. F. Survey, A-1,057, and located on John Nidever Survey No. 2, A-749. Wise & Jackson's No. 1 J. H. Porter, 330 feet north and





When the Air Mail lands

A roar . . . the mail plane glides to earth . . . letters from New York have crossed the country in less time than Grandfather heard from the boy in the city, sixty years ago.

Day and night . . . snowstorms . . . fog . . . rain . . . always the same The Air Mail Service is built on dependability, the same dependability that is found in the Burns Tubular Temper Screw. On tools in every part of the world its superiority has been proven.

TEMPER BURNS SCREW

Be sure of continued long life and ease of operation—use genuine Burns parts.

BURNS *Tool Company*

OKMULGEE · OKLAHOMA

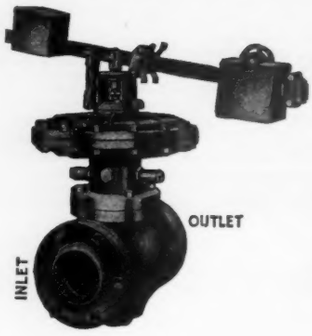
Gott Water Can

Gottkool

Built to last—you will always be assured of a fresh supply of pure water, when you have a GOTT. Made in 1½, 3, 5 and 10 gallon sizes. Order now from your supply store.

H. P. GOTT MFG. CO.
Winfield, Kansas

Differential Gas-Relief Valve



When measuring gas with orifice meters, the Fulton Differential Gas Relief Valve, automatically turns them on and off, in conformity with the changes of flow. Gas companies which have not yet studied its operation are invited to write for descriptive catalogue, today.

CHAPLIN-FULTON MFG. CO.
28-36 Penn Ave., Pittsburgh, Pa.

McGREGOR

"The Working Barrel That Works"

Over sixty thousand now in use from Pennsylvania to Argentine and from Oklahoma to India wherever oil is produced.

No Barrel can compete with the McGregor in price and saving. It comes with the barrels, valves, valve stem all complete at a price slightly more than what the old style Barrel would cost. Pumps as fast as old style barrels that are attached to the tubing.

The only pulling done when you have a McGregor in use is the rods as the complete Barrel is fastened to the rods and comes out when they are pulled. TUBING PULLING is done away with as far as the Working Barrel is concerned. Made for all size tubing. Use "Mac" Ball and Seat.

See your dealer or write us for circular

← In ordering parts refer to these letters

McGREGOR WORKING BARREL CO., Inc.
Sole Manufacturers
BRADFORD, PENNA.

east of SW cor. of Section 184, Block E, C. C. S. D. & R. G. N. G. Survey.

Wichita County

J. L. Jackson's No. 1 R. Hitchke and others, 250 feet north and 150 feet east of SW cor. of Section 2, League 4, Denton County school land, A-417. Archer Oil Co. and others' No. 1 G. W. Lewis, 150 feet south and west of NE cor. of north 35 acres of west 70 acres of Block 20, Kemp's Wichita Valley land. L. P. Hammond and others' No. 1 S. I. and H. M. Munger, 310 feet south and 280 feet east of NW cor. of Block 31, same valley land. H. Hines and Staley-Wynne's No. 7 State lands, 1,650 feet north and 425 feet west of SE cor. of Lot 6, William H. Spillers Survey, A-257, and located in the bed of the Big Wichita River. T. F. Hunter's No. 17 J. L. and T. J. Waggoner, 900 feet south and 2,450 feet east of NW cor. of Section 1, G. C. & S. F. Survey, A-528; No. 18, 1,250 feet south and 1,350 feet east of NW cor. of Section 1, same survey; No. 19, 1,250 feet south and 1,650 feet east of NW cor. of Section 1, same survey; No. 20, 1,550 feet south and 750 feet east of NW cor. of Section 1, same survey; No. 21, 1,850 feet south and 750 feet east of NW cor. of Section 1, same survey; No. 22, 1,900 feet south and 750 feet east of NW cor. of Section 1, same survey; No. 23, 1,085 feet south and 1,600 feet east of NW cor. of Section 1, same survey; No. 24, 1,085 feet south and 1,300 feet east of NW cor. of Section 1, same survey; No. 26, 900 feet south and 150 feet east of NW cor. of Section 1, same survey; No. 27, 650 feet south and 150 feet east of NW cor. of Section 1, same survey; No. 28, 1,550 feet south and 1,200 feet east of NW cor. of Section 8, G. H. & H. Survey; No. 29, 1,250 feet south and 1,300 feet east of NW cor. of Section 8, same survey. Magnolia Petroleum Co.'s No. 4 W. N. Maer-A, 150 feet south and west of NE cor. of north 30 acres of W. N. Maer's 100-acre tract out of H. B. Balch Survey, A-12. John O'Neil's No. 1 G. L. Woodard, 150 feet north and east of SW cor. of north 110 acres of Section 209, Waggoner Colony lands. Panhandle Refining Co.'s No. 2 E. Daume, 200 feet south and 150 feet west of NE cor. of north 25 acres of west 110 acres of east 220 acres of the N half of Section 1, S. P. R. R. Survey, A-266. Shappell Oil Co.'s No. 9 Kemp & Kempner-A, 830 feet south and 150 feet west of NE cor. of Section 19, Kemp's Wichita Valley land.

Wilbarger County

Atlantic Oil Producing Co.'s No. 2 F. Fluhman-A, 650 feet south of south line of Block 9, H. & T. C. Survey, and 1,260 feet east of west line of F. Fluhman's 160-acre tract and located in Atlantic Oil Producing Co.'s lease "A" out of McKinney Survey. Waggoner Refining Co.'s No. 2 W. T. Waggoner-B, 150 feet north and 450 feet east of SW cor. SW NE, Section 46, Block 4, H. & T. C. Survey.

Young County

Madden & Hunt's No. 1 O. S. Perkins, 150 feet north and west of SE cor. of west 20 acres of north 30 acres of west 60 acres of the N half of Section 207, T. E. & L. Survey. J. J. Moren and others' No. 6 G. Stewart, 650 feet south and 150 feet west of NE cor. of their 40-acre lease out of D. Dawson Survey, A-76. Panhandle Refining Co.'s No. 1 F. P. Brazelton, 510 feet south and 150 feet east of NW cor. SE, Section 1, Calv. Br. & Nav. Co. Survey, A-84, being 150 feet north and east of SW cor. of their 40-acre lease; No. 11 Mrs. O. W. Mathews, 1,350 feet south and 450 feet east of NW cor. of their 75-acre lease out of Mrs. O. W. Mathews' 730-acre tract out of A. Rohus Survey, A-240. Reed & Wooten's No. 1 R. and F. O. Loftin, 150 feet north and west of the most southerly SE cor. of P. R. Splove Survey, A-259. Roberts Oil Corp.'s No. 1 C. E. Graham-B, 150 feet south and east of NW cor. of north 100 acres of south 335 acres of E. C. Graham's 460-acre tract out of Section 3,-401, T. E. & L. Survey. C. C. Williams and others' No. 1 S. Bogley, 765 feet north and 1,035 feet west of SE cor. of L. W. Ross Survey, A-1,352. Wichita Production Co.'s No. 2 W. B. Chaves, 150 feet south and 1,875 feet west of H. B. Ankles Survey, A-5. Roxana Petroleum Corp.'s No. 4 Mrs. S. I. Payne and others, 200 feet north and east of SW cor. of east 120 acres of W. R. Smith Survey, A-1,752. Sun Oil Co.'s No. 2 M. Davis estate, 330 feet NW of SE line and and 330 feet NE of SW line of S. D. Davis Survey, A-1,593.

CORRECTED LOCATIONS

Moore County

Morton & Co.'s No. 1 W. H. Reeder, C NE SW NE, Section 191, Block B, T. & N. O. Survey.

Wheeler County

Watchorn Oil & Gas Co.'s No. 1 F. E. Sheldon, C NE NE, Section 19, Block 24, H. & G. N. Survey; No. 1, C NE NE, Section 22, Block 24, same survey.

NORTH AND WEST TEXAS

Haskell County

Subbie Oil Interest's No. 1 J. F. Jeter, 1,420 feet south and 1,320 feet east of NW cor. SW, Section 53, Block 1, H. & T. C. Survey. Western Exploration Co.'s No. 1 Scott ranch, 600 feet north and west of SE cor. of W. M. Harris Survey, No. 146, A-173.

Jack County

L. P. Elington's No. 1 J. Barry, 150 feet south and east of NW cor. of Lot 19, R. Parker Survey, A-461.

Jones County

World Oil Co.'s No. 1 L. E. C. Boyd, 150 feet north and 2,150 feet east of SW cor. of Lot 10, Samuel Jones Survey, No. 266, A-244.

Pecos County

Mid-Kansas Oil & Gas Co.'s No. 6 I. G. Yates-A, 250 feet south and 1,005 feet east of SW cor. of Section 60, Block 1, I. & G. N. Survey, and located in I. G. Yates Survey, A-8,195. First Bank Oil Co.'s No. 1 McKenzie, C N half of Section 21, Block 126, T. & P. L. Survey.

Shackelford County

W. E. Templeman's No. 1 E. S. Monaghan, 150 feet NW of SE line and 450 feet NE of SW line of Section 525, T. E. & L. Survey.

Wichita County

Shappell Oil Co.'s No. 8 Kemp & Kempner-A, 450 feet south and west of NE cor. of west 40 acres of south 80 acres of Section 18, Kemp's Wichita Valley land.

Wilbarger County

Atlantic Oil Producing Co.'s No. 1 F. Fluhman-A, 350 feet south of the south line of Block 9, H. & T. C. Survey and 1,260 feet east of the west line of F. Fluhman's 160-acre tract and located on Atlantic Oil Producing Co.'s "A" lease out of W. A. McKinney Survey.

UNIVERSITY ROYALTIES NOW OVER SIX MILLION

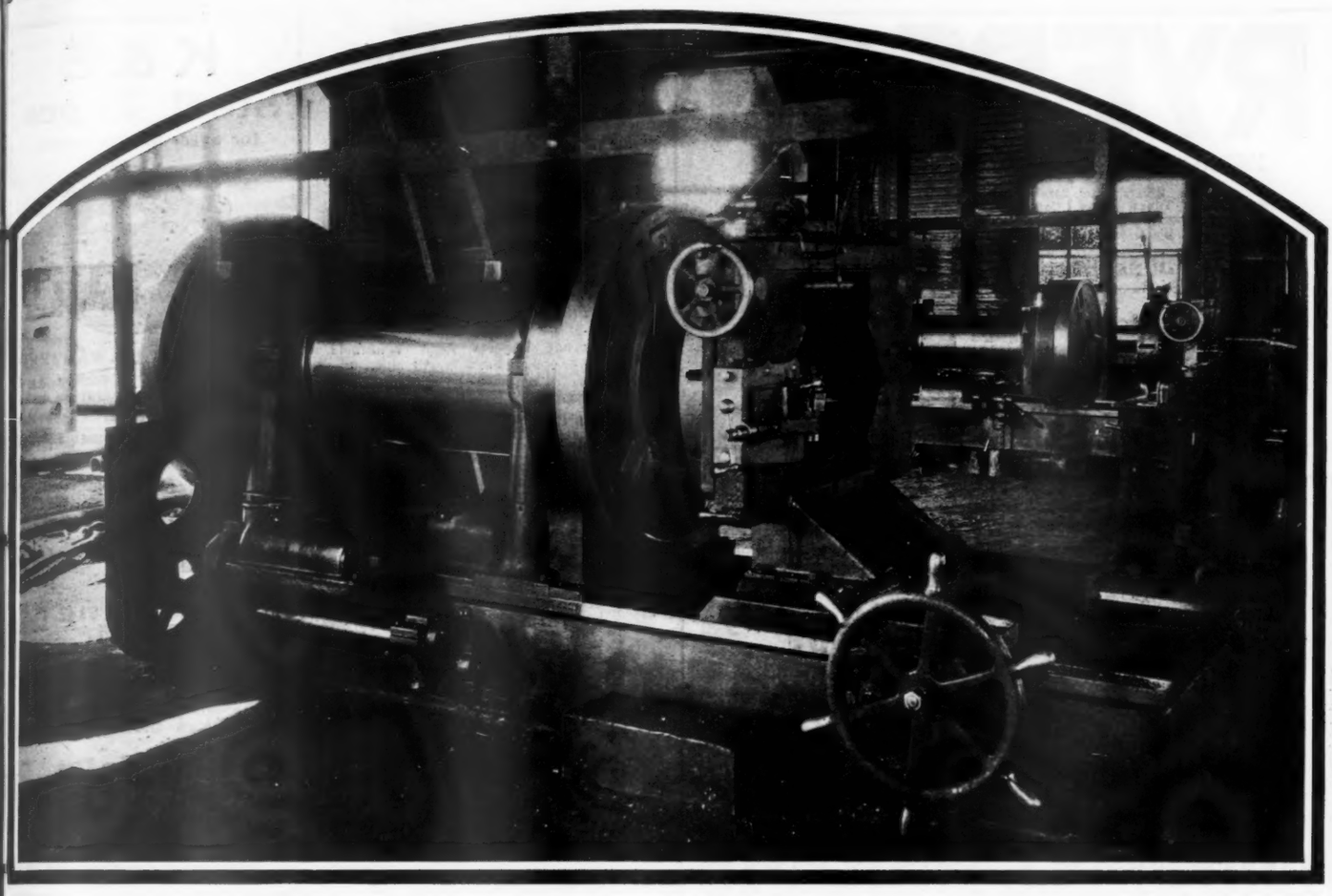
AUSTIN, Tex., June 25.—The oil royalty fund of the University of Texas leaped past the $6,000,000 mark with the receiving of checks by Land Commissioner J. T. Robison, totaling $613,096 from the four oil companies operating in Reagan, Crane and Upton Counties on university lands.

This sum represents royalties for May which are expected to exceed $200,000 for the month when the remainder of the companies are heard from. The University of Texas permanent fund, realized entirely from royalties, is now $6,128,217.

Following are the amounts sent in by the various oil companies: Texon, $30,222; Cromwell & Pickrell, $2,343; Humble Oil & Refining Co., $45,897 and $349; Big Lake Oil Co., $84,285.

RULING ON PERMITS

The Department of the Interior holds that if an oil and gas prospecting permit is in good standing when an application for the approval of an assignment is filed, such an assignment, if otherwise regular, may be approved and the assignee may make such showing of diligence as will, warrant an extension of time.



Largest

This No. 20 Duplex machine has a hole 23½" in diameter through the arbor and die head, and will handle pipe and casing from 10" to 20" inclusive. It is said to be the largest in the Oklahoma oil fields and is located at Wewoka.

In the background may be seen a No. 12 Duplex with sliding die-head.

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The OIL and GAS JOURNAL
Tulsa, Okla.

Mexican Shipments More Than in March Less Than Year Ago

By George Blardone

TAMPICO, Mexico, June 23. — Shipments of petroleum from Mexican ports of primary clearance during April totalled 5,219,111 bbls, a decrease from the movement in April, 1926 of, 2,118,875 bbls. While the movement last month indicated a big decrease from the clearances in the same month last year, it is a sharp increase over the movement last March, or say an increase, when compared with the March movement of, 952,558 bbls.

The crude imports from Venezuela during April totalled, 559,038 bbls. The imports from that country during March totalled, 275,930 bbls.

The April movement, in detail, follows:

FROM TAMPICO

By Huasteca Petroleum Co.

Apr.	Rig	Vessel, Destination	Bbls.
1	Ss	Mary Luckenbach, Baltimore	49,956
3	Ss	H. G. Wylie, Jacksonville	*41,346
4	Ss	C. E. Harwood, Norfolk & Jacksonville	†35,143
6	Ss	William Green, Boston	*66,847
7	Ss	J. O. Boyd, Miami	†19,521
8	Ss	Mirlo, New Orleans	66,716
9	Ss	Inveravon, Southampton	*56,870
9	Ss	Norman Bridge, Houston	*41,657
11	Ss	S. M. Spalding, Baltimore	65,633
11	Ss	Ballhill, New York	*60,515
11	Ss	F. H. Wickett, Providence	*76,827
12	Ss	Comet, Houston	*16,451
12	Ss	Dean Emery, New Orleans	†79,236
13	Ss	O. D. Bennett, New York	48,307
16	Ss	Astabula, Southampton	*48,965
18	Ss	H. G. Wylie, Providence	*41,282
18	Ss	Elisha Walker, Boston	*68,692
18	Ss	Halsey, Charleston	68,591
19	Ss	Kennebec, Southampton	*48,952
20	Ss	P. H. Harwood, Boston	*66,996
20	Ss	Barendrecht, Barcelona	†40,109
21	Ss	Harold Walker, New York	*68,613
22	Ss	Mirlo, New Orleans	66,461
22	Ss	Mary Luckenbach, Baltimore	48,689
26	Ss	C. A. Canfield, New Orleans	62,880
26	Ss	J. O. Boyd, Jacksonville	†19,720
28	Ss	Invergoil, Southampton	*54,157
29	Ss	Fred Ewing, New Orleans	65,383
29	Ss	Cerro Ebano, Providence	*77,972
		Coastwise deliveries	*51,335
		Coastwise deliveries	†31,257
		Bunker deliveries	102,059
		Total	1,757,178

By Mexican Eagle Oil Co., Ltd.

Apr.	Rig	Vessel, Destination	Bbls.
2	Ss	Whitegate, Brazil Ports	†38,565
3	Ss	San Dunstano, Nassau f/o	†61,745
5	Ss	San Leonardo, Mariel, Cuba	*51,685
5	Ss	Breedijk, Antwerp (asphalt)	797
6	Ss	San Zeferino, Nassau f/o	*52,456
8	Ss	Bourges, Dunkirk (asphalt)	23,780
9	Ss	Appleleaf, Key West	*36,117
11	Ss	San Zotico, Nassau f/o	*50,066
11	Ss	San Macedonio, Nassau f/o	*38,329
14	Ss	Ravensworth, Key West (asphalt)	33,528
13	Ss	Essex Glade, Argentine (asphalt)	3,618
13	Ss	Essex Glade, Argentine (asphalt)	†32,145
13	Ss	Kayeson, Antwerp (asphalt)	29,484
15	Ss	San Eduardo, Nassau f/o	†57,568
14	Ss	Pearleaf, Key West	*36,861
14	Ss	Kyphissia, Hamburg (asphalt)	2,887
20	Ss	San Tirso, Nassau f/o	*37,334
22	Ss	Darlan, Manchester (asphalt)	9,576
23	Ss	King Howell, Antwerp (asphalt)	37,616
27	Ss	Appleleaf, Key West	*37,382
28	Ss	Port Melbourne, New York (asphalt)	26,068
30	Ss	Cornelia Maersk, Caen, Fr., (asphalt)	16,480
		Coastwise deliveries	†100,572
		Coastwise deliveries	*15,029
		Bunker deliveries	51,845
		Total	881,523

By Cia. Mexicana-Holandesa La Corona, S. A (Royal Dutch Shell)

Apr.	Rig	Vessel, Destination	Bbls.
1	Ss	Clam, Nassau f/o	57,447
3	Ss	Oltena, Nassau f/o	42,265
4	Ss	Swiftlight, Providence	76,082
6	Ss	Malacca, New York	72,670
11	Ss	San Geronimo, Nassau f/o	96,412
13	Ss	Clement Smith, Baltimore	69,966
17	Ss	Belridge, Nassau f/o	55,745
19	Ss	F-Sulphur 6, New Orleans	41,326
20	Ss	Cherryleaf, Nassau f/o	34,975
26	Ss	Swiftlight, Maurer, N. J.	76,161
27	Ss	Turpanvil, Baltimore	71,981
28	Ss	Atheltarm, Nassau f/o	56,390
29	Ss	Telena, Nassau f/o	57,377
		Bunker deliveries	63,936
		Total	871,733

By Mexican Sinclair Petroleum Corp.

Apr.	Rig	Vessel, Destination	Bbls.
1	Ss	W. L. Connelly, New Orleans	30,734
2	Ss	A. E. Watts, Philadelphia	69,118
4	Ss	Gene Crawley, Havana	30,175
4	Ss	Madrono, Neuvitas & Antilla	†56,307
11	Ss	Mirita, Brunswick, Ga.	54,268
11	Ss	W. L. Connelly, Pureto Barrios, C. A.	30,010
14	Ss	Harry Farnum, New Orleans	29,666
16	Ss	Gene Crawley, Havana	*30,641
18	Ss	E. V. R. Thayer, New Orleans	68,735
19	Ss	Madrono, Neuvitas & Tarafa	*56,469
24	Ss	Harry Farnum, Belic, Cuba	*30,660
26	Ss	W. L. Connelly, Havana	30,663
28	Ss	Gene Crawley, New Orleans	30,005
		Bunker deliveries	22,165
		Total	569,616

By Transcontinental Petroleum Co.

Apr.	Rig	Vessel, Destination	Bbls.
5	Ss	F-Sulphur, Freeport	16,113
11	Ss	F-Sulphur, Freeport	14,903

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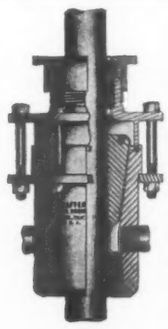

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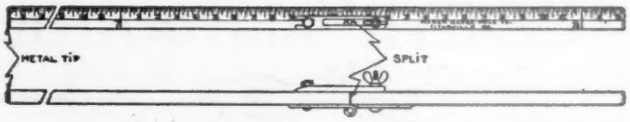

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16	Ss Pioneer, Baton Rouge	50,079
17	Ss F-Sulphur 1, Freeport	15,168
18	Ss Glenpool, Baton Rouge	53,076
18	Ss Vistula, New York	84,655
19	Ss Durango, New York	53,996
19	Ss Durango, New York	†16,163
23	Ss Hoxbar, Baton Rouge	71,302
24	Ss Impay, New York	67,712
27	Ss J. W. Bostwick, New York	79,480
	Bunker deliveries	35,625
	Total	635,560

By The Texas Company

Apr.	Rig	Vessel, Destination	Bbls.
2	Ss	Alabama, Port Neches	27,216
6	Ss	Occidental, Marcus Hook	57,896
24	Ss	Texas, Port Neches	51,653
24	Ss	Texas, Port Neches	†7,113
		Bunker deliveries	3,751
		Total	147,629

By Mexican Gulf Oil Co.

Apr.	Rig	Vessel, Destination	Bbls.
7	Ss	Ligonier, Savannah	30,145
21	Ss	Ed. L. Shea, Everett, Mass.	63,483
		Bunker deliveries	3,811
		Total	97,439

By Mexican Atlas Petroleum Co.

Apr.	Rig	Vessel, Destination	Bbls.
7	Ss	Torres, New York	26,938
21	Ss	Topila, New York	49,287
		Total	76,225

By La Espuela Oil Co.

Apr.	Rig	Vessel, Destination	Bbls.
23	Ss	F-Sulphur 1, Freeport	15,429
28	Ss	F-Sulphur 1, Freeport	18,374
		Total	33,803

By Mexican Oil Products Corp.

Apr.	Rig	Vessel, Destination	Bbls.
7	Ss	Torres, New York	21,829

By East Coast Oil Co.

April—Bunker deliveries		7,183

FROM TUXPAM

By Mexican Eagle Oil Co., Ltd.

Apr.	Rig	Vessel, Destination	Bbls.
19	Ss	San Leon, Rio de Janeiro	*4,293
27	Ss	San Antonio, Nassau f/o	*45,524
		Coastwise deliveries	*40,652
		Bunker deliveries	28,924
		Total	119,393

APRIL SUMMARY

From Tampico	5,099,718
Tuxpam	119,393
Total April, 1927	5,219,111
Total April, 1926	7,337,986
Decrease April, 1927	2,118,875

DIVISION OF MOVEMENT

To United States	3,152,440
Cuba and West Indies	1,030,233
Mexican Coastwise	238,845
United Kingdom	218,520
Continent	151,153
South America	78,611
Central America	30,010
Bunkers (to balance)	319,299
Total	5,219,111

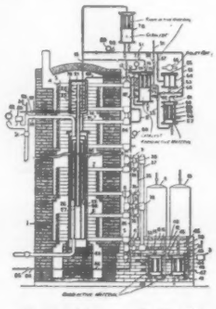
CLASSES

Crude	2,670,799
Topped Crude	1,467,953
Distillates	577,226
Asphalt	183,834
Bunkers (to balance)	319,299
Total	5,219,111

(Note: * Denotes Topped Crude; † Denotes Distillates).

Recent Patents

1,627,938. Oil Distillation and Cracking. Stephen L. Tingley, Nitro, W. Va. Filey December 28, 1923. Serial No. 683,163. Thirty-three claims. (Cl. 196-52.)



1. An oil cracking and distillation apparatus comprising a furnace, a jacketed coil within said furnace formed in a series of superposed substantially horizontal sections, means respectively for supplying oil and water to the lower end of said coil and jacket, a header communicating with said oil-supplying means and having check valve control connection with said coil intermediate of its sections acting to control the fluctuations of the liquid level of the oil in said coil.

13. An oil cracking and distillation apparatus comprising a furnace, a conduit for the oil within said furnace, a fixation chamber, means for supplying oil to said conduit, means for subjecting the oil before entering said conduit to emanations from a radioactive substance and means for conducting the highly heated oil va-

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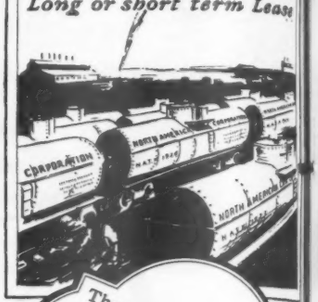

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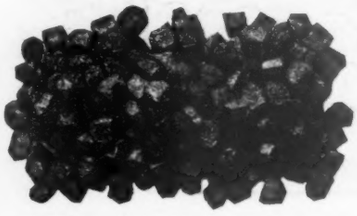

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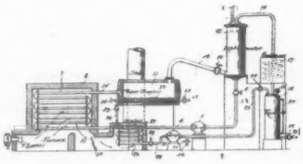
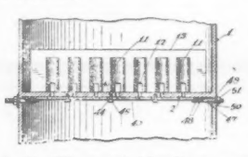
pors from said conduit to said fixation chamber.

1,628,236. Process and Apparatus for Converting Oils. Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed October 8, 1921. Serial No. 506,225. 11 Claims. (Cl. 196—62.)



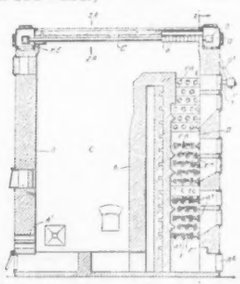
1. A process of converting hydrocarbon oils, which comprises passing a stream of oil through a cracking zone where said oil is subjected to a cracking temperature, in delivering the highly heated oil to an insulated vapor chamber located outside of the cracking zone and in which chamber a pool of liquid oil collects, in discharging vapors from said chamber to a dephlegmator, in returning reflux condensate from the dephlegmator to the oil stream passing through the cracking zone, in discharging uncondensed vapors from the dephlegmator to a final condenser and receiver, in removing incondensable gases from said receiver, in heating said gases, and in then passing the heated gases into a conduit immersed in the liquid oil in the vapor chamber, in discharging the gases from said conduit into said oil, and in maintaining a superatmospheric pressure on the oil in the cracking coil and in said vapor chamber.

1,628,055. Apparatus for Absorption and Distilling of Hydrocarbons. Daniel L. Newton, Fullerton, Calif. Filed December 9, 1925. Serial No. 74,280. 5 Claims. (Cl. 196—8.)



4. A distilling and blending apparatus comprising in combination a series of blending chambers each having a partition adapted to hold an absorbing liquid medium, each of said partitions having perforations adapted to allow passage upward of gas containing vapors from one chamber to another, and means operatively connected to each partition to control the flow of gas into each chamber, independently of the rate of flow into other chambers.

1,626,874. Oil Heater and Method of Operating Same. John Primrose, New York, N. Y., assignor to Power Specialty Company, New York, N. Y., a Corporation of New York. Filed May 11, 1925. Serial No. 29,411. 6 Claims. (Cl. 196—116.)



1. In the process of cracking oil in a tubular oil heater, the improvement which consists in heating the oil in three stages, in the first of which the oil containing tubes are subjected to a countercurrent heating effect by heating gases previously cooled in the two succeeding oil heating stages, and in the second of which the oil is heated by radiant heat absorbed from the combustion.

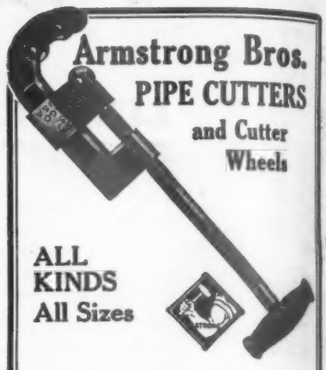


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Fig. 65—For Hot Oil Lines. 300 lbs. Working Pressure—750° F. Temperature

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for April

Company—	Month	Daily Av.
*Prairie P. L. Co.	4,380,000	146,000
Gulf P. L. Co.	1,583,963	52,799
Texas P. L. Co.	941,632	31,388
Magnolia Pet. Co.	1,562,069	52,069
Cosden P. L. Co.	1,078,448	35,948
*Sinclair P. L. Co.	2,490,000	83,000
Empire P. L. Co.	1,041,497	34,717
*Other lines	12,720,000	424,000
Total April	25,797,609	859,921
Total March	26,152,714	843,636
Difference	355,105	16,285

Shipments

†Prairie P. L. Co.	5,484,826	182,827
Gulf P. L. Co.	1,288,099	42,936
Texas P. L. Co	645,712	21,528
Magnolia Pet. Co.	1,286,241	42,875
Cosden P. L. Co.	954,712	31,824
†Sinclair P. L. Co.	2,537,223	84,574
Empire P. L. Co.	1,177,622	39,254
*Other lines	11,400,000	380,000
Total April	24,774,454	825,818
Total March	24,880,289	802,589
Difference	115,835	23,229

Stocks

*Prairie Oil & Gas Co.	30,000,000
*Prairie P. L. Co.	2,000,000
Gulf P. L. and Gypsy Oil Co.	8,257,305
The Texas Company	4,248,791
Magnolia Pet. Co.	4,833,023
Cosden P. L. Co.	2,446,239
*Sinclair Crude Oil Pur. Co.	19,400,000
Empire P. L. Co.	2,695,213
Carter Oil Co.	14,657,522
*Other lines	10,500,000
Total April	99,083,093
Total March	96,459,101
Difference	2,623,992

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming and Texas crude. Note—Stocks do not include approximately 2,500,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 2,500,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPE LINES
Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar. '27	Apr. '27
Nat. Transit	163,378.73	154,870.84
S. W. Pa. P. L.	100,592.96	88,641.89
Eureka P. L.	416,053.14	384,040.85
Buckeye P. L. (Macksburg)	360,086.67	330,728.39
Buckeye P. L. (Cleveland)	12,562.68	11,229.68
Buckeye P. L. (Lima, etc.)	126,642.07	117,721.95
Indiana P. L.	10,472.58	10,277.07
Cumberland P. L.	276,896.95	257,132.67
N. Y. Transit	24,065.99	22,203.37
Tidewater P. L.	189,659.31	178,148.47
Pure Oil	176,516.93	167,608.74
Emery P. L.	57,577.05	54,707.36
Paragon Dev.	29,944.63	27,120.07
Pittsburgh P. L.	5,324.14	5,667.22
Stoll Ref.	12,195.78	.....
Total	1,960,669.62	1,810,098.57
Daily average	63,247.41	60,336.60

Note: Indian Refining Co. also reported other receipts of 320,788.98 bbls. Paragon Refining Co. had other receipts of 114,946.43 bbls. Paragon Development had other receipts of 1,682.19 bbls. Pure Oil had other receipts of 9,751.43 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar. '27	Apr. '27
Nat. Transit	371,407.93	291,282.87
S. W. Pa. P. L.	394,577.29	358,167.37
Eureka P. L.	186,306.27	165,326.49
Buckeye P. L. (Macksburg)	162,229.20	170,657.32
Buckeye P. L. (Cleveland)	1,218.35	975.08
Buckeye P. L. (Lima, etc.)	851,500.60	945,498.20
Indiana P. L.	995,741.13	963,978.82
Cumberland P. L.	128,346.83	125,745.62
N. Y. Transit	97,577.19	164,631.87
Northern P. L.	161,689.55	181,685.31
Tidewater P. L.	108,290.33	118,938.50
Pure Oil	158,078.86	181,289.98
Emery P. L.	55,643.19	56,289.21
Paragon Ref.	103,362.66	113,995.67
Indian Ref.	329,602.47	331,923.45
Paragon Dev.	35,811.95	30,782.89
Pittsburgh P. L.	5,715.31	5,626.88
Total	4,147,099.11	4,206,795.53
Daily average	133,777.39	140,226.52

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of March and April were as follows:

	Mar. '27	Apr. '27
Nat. Transit	987,165.64	1,122,327.78
S. W. Pa. P. L.	716,181.84	736,241.91
Eureka P. L.	1,438,177.29	1,429,347.79
Buckeye P. L. (Macksburg)	457,603.45	438,197.58
Buckeye P. L. (Cleveland)	41,573.95	42,148.71
Buckeye P. L. (Lima, etc.)	3,545,161.61	3,868,077.13
Indiana P. L.	592,303.39	598,145.91
Cumberland P. L.	583,281.33	587,606.67
Southern P. L.	458,081.93	421,389.46
N. Y. Transit	803,826.11	750,482.15
Northern P. L.	485,204.86	448,142.25
Pure Oil	498,169.44	495,796.06
Emery P. L.	7,599.54	6,418.11
Paragon Ref.	27,096.71	27,679.47
Indian Ref.	141,081.41	130,280.76
Paragon Dev.	8,085.46	6,239.54
Pittsburgh P. L.	3,449.67	3,773.55
Total	10,794,043.63	11,112,294.83
Increase	674,881.27	318,251.20

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of March and April, showing the gross stocks of the above fields:

	Mar. '27	Apr. '27
Pennsylvania	3,731,445.01	3,761,619.39
Lima	810,425.15	839,740.90
Kentucky	1,067,209.97	1,143,953.67
Mid-Continent	5,041,917.37	5,269,128.72
Illinois	143,046.13	97,852.15
Total	10,794,043.63	11,112,294.83

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
January	62,633	56,831	55,630	56,209
February	68,023	60,606	60,394	61,298
March	68,721	60,575	61,644	63,247
April	71,058	63,062	63,019	60,337
May	63,942	59,217	60,580	.....
June	63,230	61,270	64,131	.....
July	64,208	62,639	63,206	.....
August	59,942	59,686	61,815	.....
September	62,930	62,510	64,639	.....
October	64,976	60,995	62,704	.....
November	56,282	59,350	61,774	.....
December	55,814	57,974	58,755	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
January	145,518	157,889	156,056	141,227
February	148,732	160,863	159,488	138,534
March	147,098	154,591	150,239	133,777
April	147,611	151,429	152,371	140,227
May	134,997	146,995	160,998	.....
June	143,910	149,467	160,257	.....
July	124,187	161,338	160,945	.....
August	123,120	161,730	151,929	.....
September	127,325	156,719	158,915	.....
October	123,170	145,388	161,132	.....
November	124,400	143,582	152,668	.....
December	151,392	150,152	136,428	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
January	11,353,276	9,859,170	9,714,000
February	11,192,924	9,579,354	10,110,100
March	11,158,297	9,438,292	10,794,944
April	11,062,082	9,805,851	11,112,295
May	11,207,562	9,531,757	.....
June	11,093,796	9,585,304	.....
July	11,067,453	9,734,687	.....
August	10,974,481	9,668,947	.....
September	10,781,763	9,433,732	.....
October	11,086,850	9,269,806	.....
November	11,068,158	9,257,667	.....
December	10,458,445	9,454,512	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

1926—	Runs	Shipments	Stocks
April	3,137.40	4,519.68	12,459.02
May	2,933.29	2,096.35	13,296.96
June	3,217.62	1,655.16	14,858.43
July	3,025.86	4,075.11	13,809.18
August	2,886.59	2,121.21	14,574.56
September	2,788.18	3,373.06	13,988.68
October	2,991.86	2,307.75	14,671.35
November	2,810.60	1,664.55	15,817.31
December	2,847.52	5,561.11	13,103.72
1927—			
January	2,641.54	1,470.42	14,274.84
February	2,764.30	1,082.82	15,956.32
March	2,587.20	1,878.56	16,664.96

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks May 1	2,476,177.30
Runs from wells	542,566.62
Other receipts	131,751.11
Regular deliveries	382,195.92
Other deliveries	479,824.34

The amount of Illinois oil run by the Tidewater Pipe Co. in April was 50,420.35 bbls. and deliveries were 62,622.57 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1926—		
April	610,957.04	487,604.00
May	682,416.67	498,456.90
June	693,102.34	558,054.94
July	713,490.66	490,092.82
August	701,795.92	555,766.59
September	688,798.66	516,082.05
Ocotber	681,648.96	531,467.39
November	651,263.33	498,439.37
December	668,909.58	587,947.61
1927—	Runs	Deliveries
January	621,421.03	530,085.98
February	595,831.16	476,956.71
March	727,593.91	554,947.43
April	593,225.97	444,818.49

Tidewater Pipe Co., Ltd., also delivered in April, 191,291.56 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
February	26,214	3,036	32,750	8,571	18,250	88,821	.....	.....	.....	.....	.....	88,821
March	16,616	5,484	56,710	13,871	13,419	106,097	.....	.....	.....	484	.....	106,581
April	12,667	4,367	47,667	15,100	13,300	93,100	.....	.....	.....	.....	.....	93,100
May	10,452	7,645	18,387	9,256	6,226	51,936	.....	.....	.....	.....	.....	51,936

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
February	12,000	14,429	87,286	5,321	26,714	145,750	4,786	46,786	2,143	3,607	57,322	203,072
March	4,677	13,161	63,484	9,226	26,129	116,677	6,742	36,258	2,419	4,871	50,290	166,967
April	22,700	9,033	62,033	6,067	26,567	126,400	5,067	18,033	.....	.....	23,100	149,500
May	21,032	9,807	93,452	7,774	23,580	155,645	1,807	30,612	1,936	.....	34,355	190,000

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

1926—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
May:	Month	18,667,144	14,507,008	11,940,797	3,516,640	5,482,939	2,231,938	3,459,489	3,317,000	63,122,955
	Daily average	602,166	467,968	385,187	113,440	176,869	71,998	111,596	107,000	2,036,324
June:	Month	18,269,417	14,073,510	11,782,200	3,346,470	5,064,760	2,206,830	3,437,905	3,365,000	61,546,092
	Daily average	608,981	469,117	392,740	111,549	168,822	73,561	114,597	112,167	2,051,536
July:	Month	18,743,199	14,657,482	13,983,759	3,582,267	5,019,892	2,173,813	3,336,664	3,420,000	64,917,076
	Daily average	604,619	472,822	451,089	115,557	161,932	70,123	107,634	110,322	2,094,099
August:	Month	18,765,080	14,618,236	17,093,586	3,681,436	4,878,191	2,190,739	3,457,697	3,339,500	68,024,465
	Daily average	605,325	471,556	551,406	118,756	157,361	73,896	111,538	107,726	2,194,338
September:	Month	18,104,954	14,466,510	17,580,100	3,450,060	4,603,230	2,079,840	3,141,123	3,330,000	66,755,817
	Daily average	603,498	482,217	586,003	115,002	153,441	69,328	104,704	111,000	2,225,194
October:	Month	18,966,058	15,720,689	19,001,388	3,714,637	4,625,138	2,166,559	3,071,720	3,398,000	70,664,189
	Daily average	611,808	507,119	612,948	119,827	149,198	69,889	99,088	109,613	2,279,490
November:	Month	19,173,128	16,876,950	18,593,160	3,593,490	4,299,480	2,054,911	2,842,587	3,216,000	70,649,706
	Daily average	639,104	562,565	619,772	119,783	143,316	68,497	94,752	107,200	2,354,990
December:	Month	20,276,950	17,882,908	19,753,591	3,654,156	4,266,129	2,018,734	2,658,301	3,313,000	73,823,829
	Daily average	654,095	576,868	637,212	117,876	137,619	65,120	85,752	106,871	2,381,414
1927—										
January:	Month	20,184,872	19,030,745	18,546,990	3,668,323	4,076,469	1,905,570	2,610,303	3,332,500	73,355,773
	Daily average	651,125	613,895	598,290	118,333	131,499	61,471	84,203	107,500	2,366,315
February:	Month	17,982,711	19,752,348	16,483,292	3,349,416	3,574,256	1,784,104	2,385,135	3,007,200	68,318,462
	Daily average	642,240	705,441	588,689	119,622	127,652	63,718	85,183	107,400	2,439,945
March:	Month	19,835,724	22,480,921	18,417,100	3,672,849	3,853,920	1,896,425	2,466,798	3,620,800	76,244,537
	Daily average	639,862	725,191	594,100	118,479	124,320	61,175	79,574	116,800	2,459,501
April:	Month	19,466,087	22,283,160	17,800,740	3,530,490	3,378,240	1,994,730	2,615,770	3,474,000	74,549,217
	Daily average	648,870	742,972	593,358	117,683	112,608	66,491	87,192	115,800	2,484,974
Total 12 month		228,435,324	206,356,467	200,976,703	42,760,234	53,122,704	24,696,090	35,483,492	40,133,000	831,964,014
		625,850	565,360	550,621	117,151	145,541	67,661	97,215	109,963	2,279,363

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ENDURANCE

The newspapers said that Lindbergh undertook his glorious adventure *alone*—but, of course, the newspapers are mistaken.

How can a man be *alone* when the hopes, prayers and well wishes of a hundred million admirers accompany him? How can a man be *alone* when the entire civilized world is with him in spirit—thrilling to his thrills, sharing in his fears, glorying in his triumph?

Driving irresistibly on thru the silent, hungry darkness of an Atlantic night, Lindbergh may have been lonely, but certainly he was not *alone.*

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Gaso Walking Beam Pump No. 601—450 to 600 pound pressures. Especially adapted to leases where no pumping power is available. Straight-line pull prolongs life, reduces wear.

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